

SERVICE MANUAL

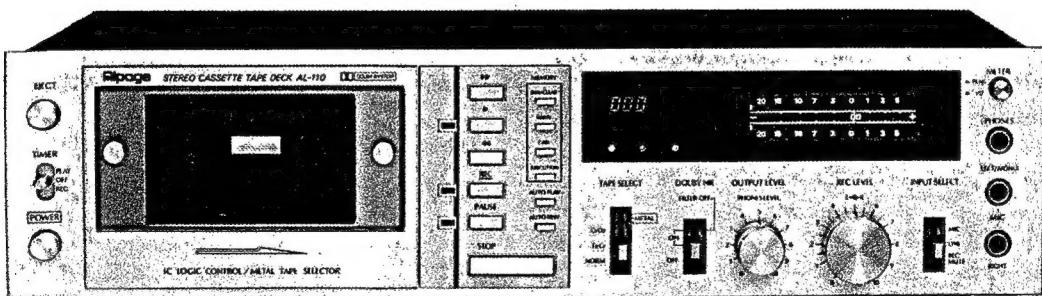
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AL-110

STEREO CASSETTE DECK

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Specifications

| | |
|-----------------------|--|
| Type | 4-track, 2-channel/stereo cassette deck, front loading vertical type |
| Power Consumption | 30W |
| Power Source | 120V 60Hz AC (For U.S.A./Canadian model) 110/127/220/240V 50/60 Hz AC (For European model) |
| Tape Speed | 4.76 cm/sec \pm 1.5% |
| FF/REW Time | 90 sec Max. (C-60) |
| Wow & Flutter | \pm 15% (DIN WRMS Playback Mode) (For U.S.A./Canadian Model) 0.2% (DIN WRMS Rec./Play Mode) (For European Model) |
| Distortion | 2% Max. |
| Signal to Noise Ratio | 55 dB Min. (Dolby NR OFF) |
| Motor | Electrical Governor Controlled DC Type |
| Heads | Sen Alloy Core REC/PLAY Head, Ferrite erase head |
| Input Sensitivity | Line 300mV, Mic 3mV DIN: 1mV/KM (For European Model) |
| Output Level | Line: 1000mV \pm 1.5 dB/100K ohm Headphone: 100mV/8 ohm |
| Semiconductors | 6 ICs, 67 Transistors, 48 Diodes, 4 Zener Diodes (For U.S.A./Canadian Model) 6 ICs, 71 Transistors, 2 FETs, 50 Diodes 4 Zener Diodes (For European Model) |
| Dimensions | 420(W) x 106(H) x 261(D) mm |
| Weight | 5.9 kg |

FEATURES

| | |
|----------------------|--|
| Memory Tape Counter | Resettable three figure digital F.L. counter |
| Dolby NR | * Dolby Noise Reduction System |
| MPX Switch | MPX Filter ON/OFF Switch |
| Tape Selector Switch | 4 Positions Lever Switch |
| Peak/VU Switch | 2 Positions Push Switch |
| Input Selector | Line/Mic Manual Switching Lever Type |
| Output Control | Output Level Attenuator Control |

* Noise reduction circuit is made under licence from Dolby Laboratories. The word "DOLBY" and the Double-D symbol are trademarks of Dolby Laboratories.

Parts Location and Disassembly Instructions

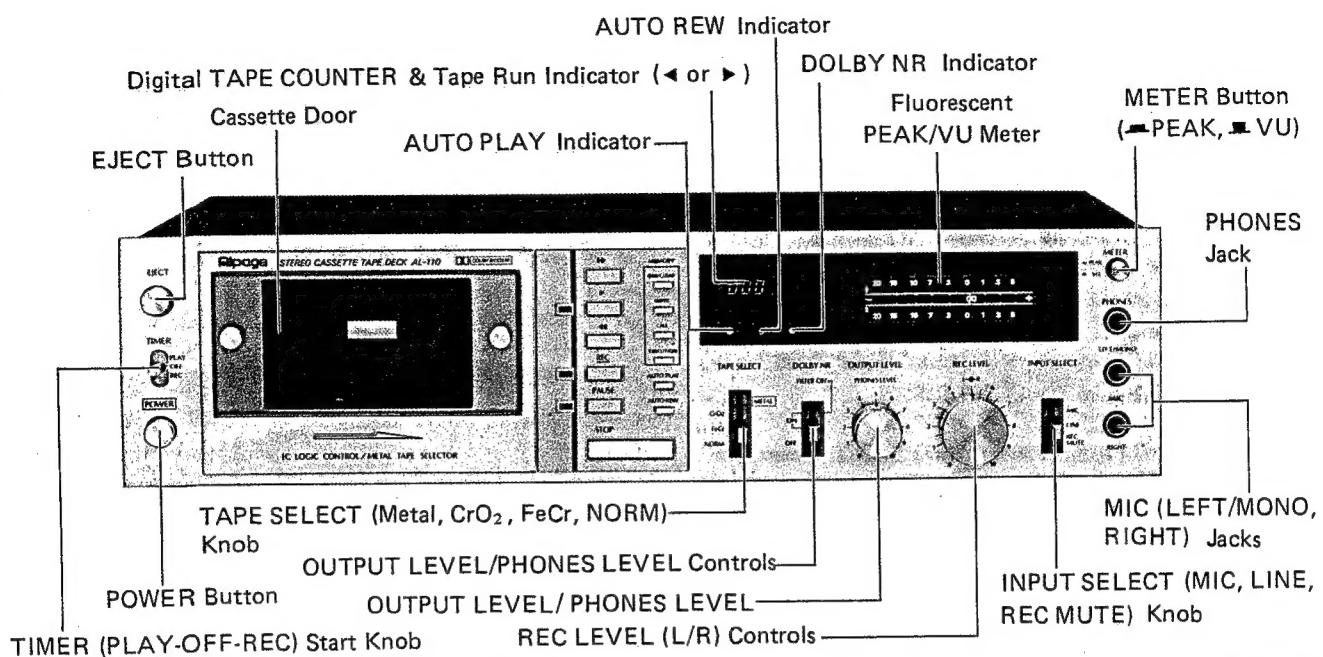


Figure 1

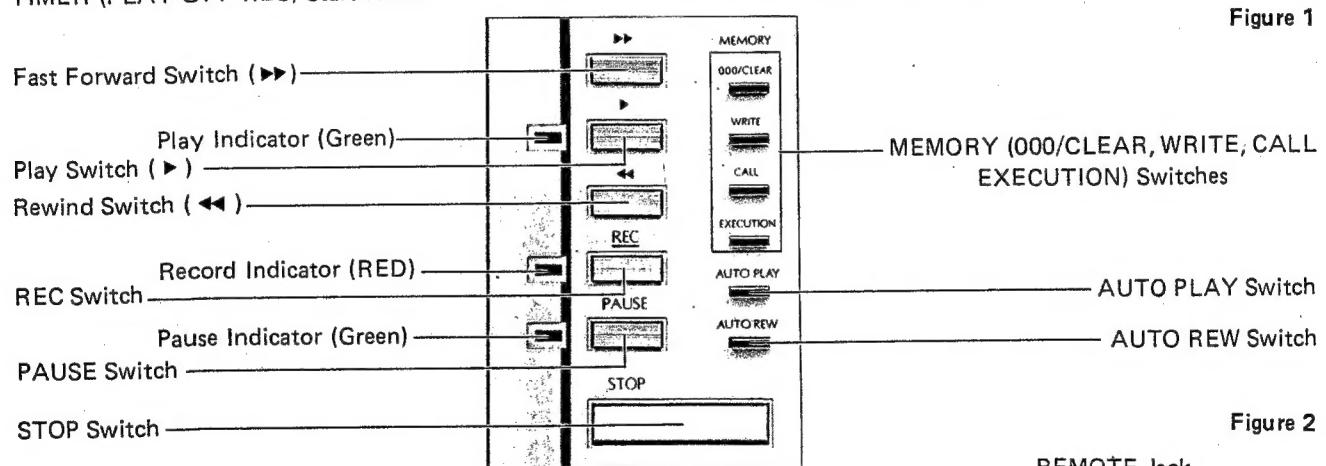


Figure 2

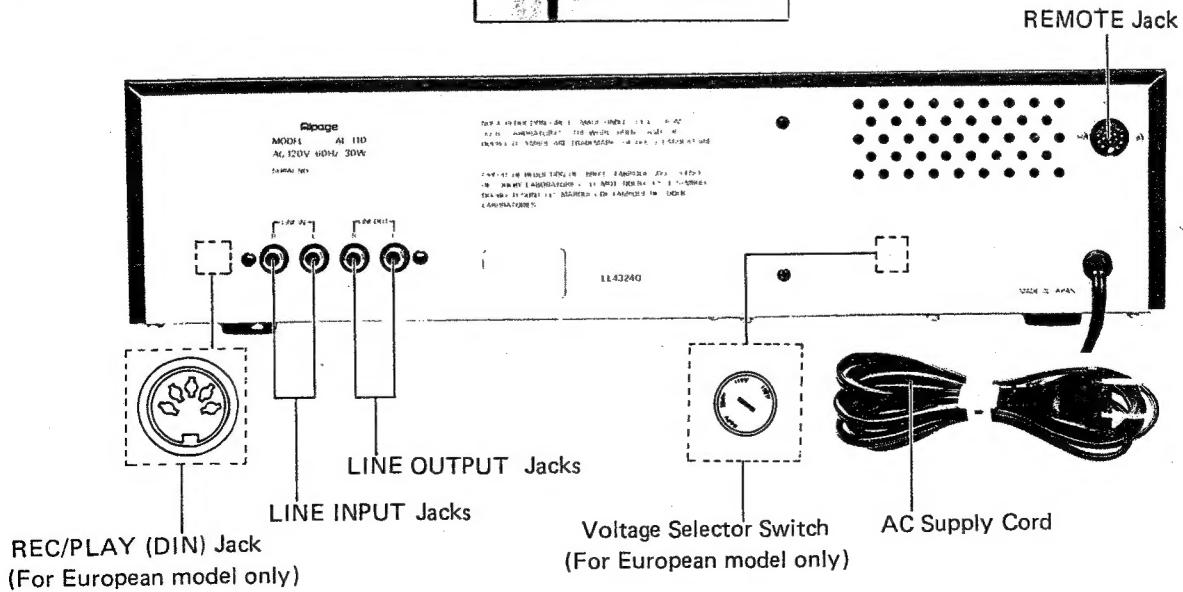


Figure 3

1. Removal of Top Cover

- (1) Remove six screws marked "△" from both sides of top cover as shown in Figure 4 and 5.
- (2) Slide out the top cover backward.

2. Removal of Front Panel

- (1) Remove two screws holding the cassette door and then remove the cassette door as shown in Figure 5.
- (2) Pull out five knobs as shown in Figure 5.
- (3) Remove sixteen screws marked "※" from top and bottom side of front panel as shown in Figure 6 and 7.
- (4) Carefully remove the front panel lead wire connections to the LED P.C.B.

3. Removal of Counter Frame with LED P.C. Board and FL Counter Assembly

- (1) Remove two screws marked "□" as shown in Figure 8.
- (2) Take up the Counter Frame and reverse it as shown in Figure 9.
- (3) Remove four screws from two P.C. Boards as shown in Figure 9.
- (4) Disconnect all wires from both P.C. Boards.

4. Removal of FL Meter P.C. Board

- (1) Remove two screws marked "●" as shown in Figure 8.
- (2) Disconnect all wires from the P.C. Board.

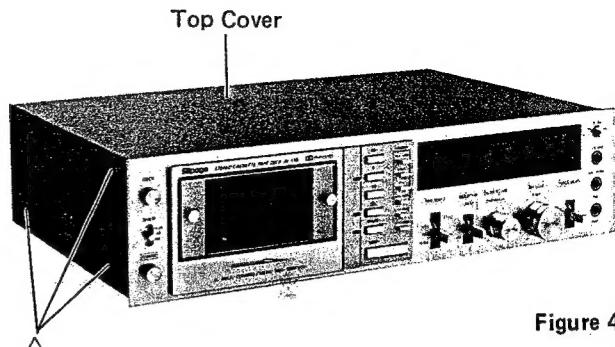


Figure 4

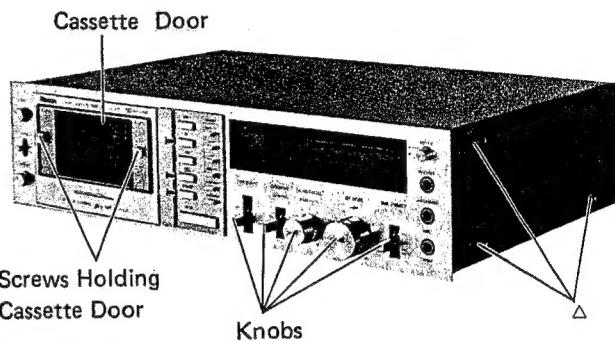


Figure 5

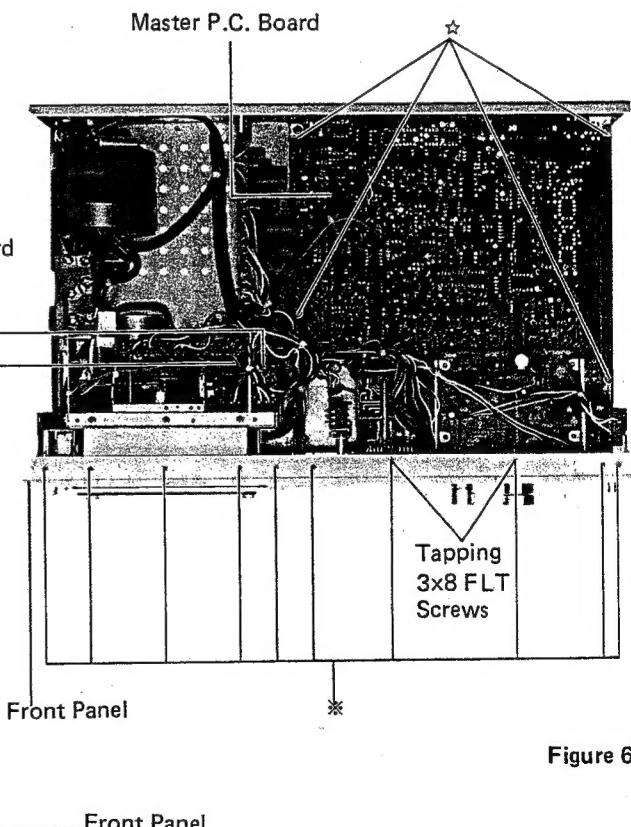


Figure 6

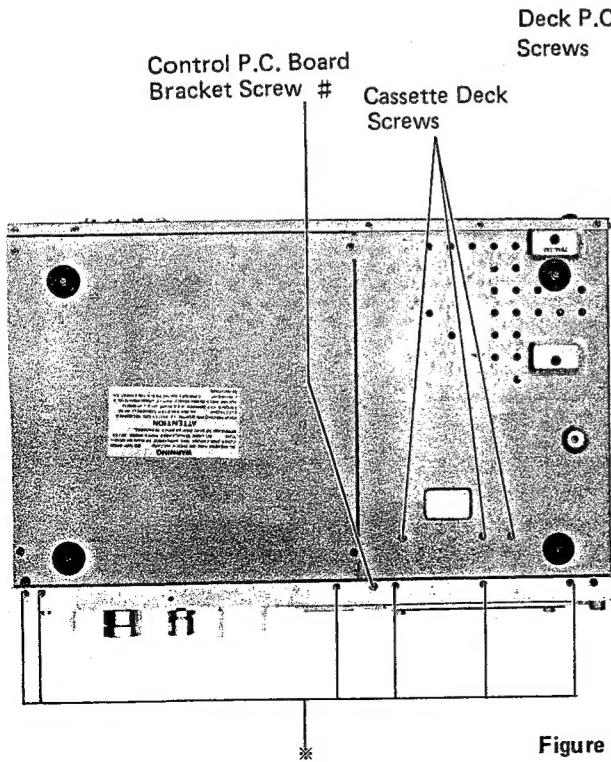


Figure 7

5. Removal of Control P.C. Board Bracket, Key Board P.C. Board and Counter Function Key P.C. Board

- (1) Remove three tacks marked "★" from the Key Board P.C. Board as shown in Figure 8.
- (2) Remove two screws marked "■" from the Counter Function Key P.C. Board as shown in Figure 8.
- (3) Remove three screws marked "#" as shown in Figure 7 and 8.
- (4) Remove the Control P.C. Board Bracket.
- (5) Disconnect all wires from P.C. Boards.

6. Removal of Timer Switch P.C. Board

- (1) Remove two screws from the Timer Switch as shown in Figure 8.
- (2) Disconnect all wires from the P.C. Board.

7. Removal of Jack P.C. Board

- (1) Remove three nuts from the jack as shown in Figure 8.
- (2) Disconnect all wires from the P.C. Board.

8. Removal of Power Switch P.C. Board (For U.S.A. & Canadian model only)

- (1) Pull out the switch lever from the Power Switch as shown in Figure 10.
- (2) Remove two screws marked "★" as shown in Figure 10.
- (3) Disconnect all wires from the P.C. Board.

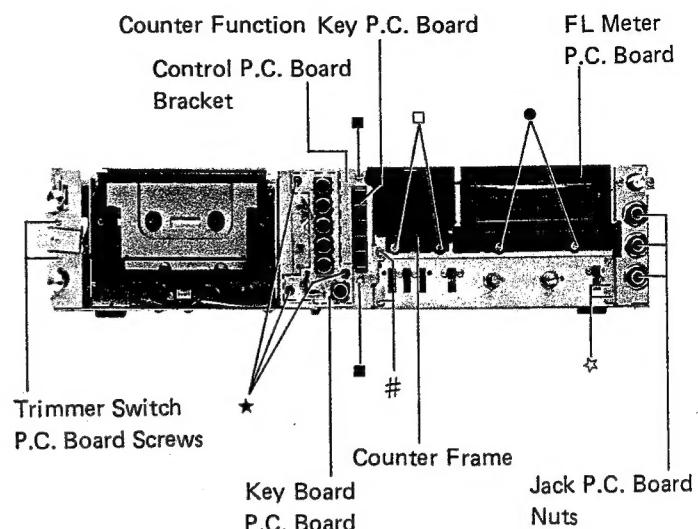


Figure 8

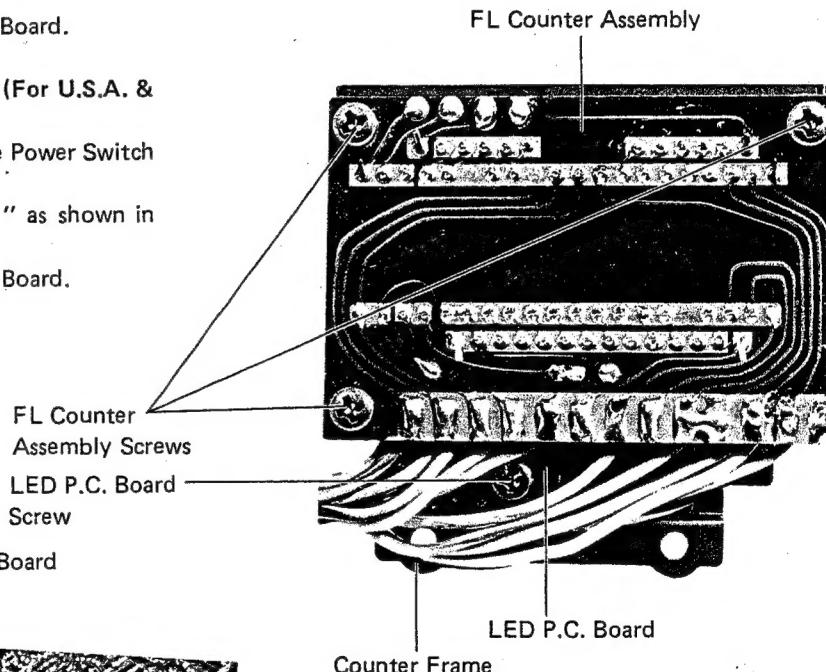


Figure 9

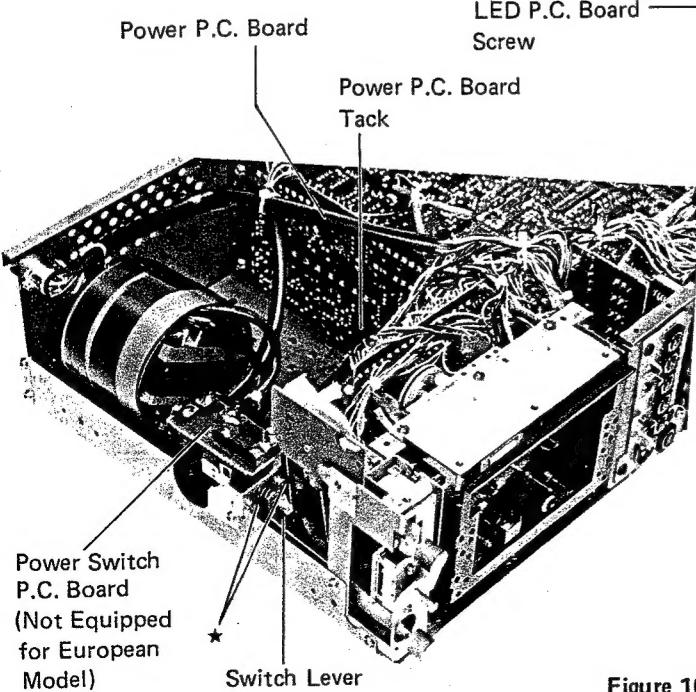


Figure 10

9. Removal of Power P.C. Board

- (1) Remove one tack from the Power P.C. Board as shown in Figure 10.
- (2) Remove two screws marked "○" as shown in Figure 11.
- (3) Disconnect all wires from the P.C. Board.

10. Removal of Master P.C. Board

- (1) Remove six screws marked "☆" as shown in Figure 6 and 8.
- (2) Remove two tacks from the rear cover as shown in Figure 11. (For U.S.A. & Canadian model)
- (3) Remove three tacks from the rear cover as shown in Figure 11. (For European model)
- (4) Disconnect all wires from the P.C. Board.
- (5) The P.C. Board can be completely removed from the chassis to this side.

11. Removal of Cassette Deck

- (1) Remove three screws from the bottom chassis as shown in Figure 7.

12. Removal of Control P.C. Board

- (1) Remove four screws from the Control P.C. Board as shown in Figure 12.
- (2) Disconnect all wires from the P.C. Board.

13. Removal of Deck P.C. Board

- (1) Remove two screws from the cassette deck as shown in Figure 6.
- (2) Disconnect all wires from the P.C. Board.

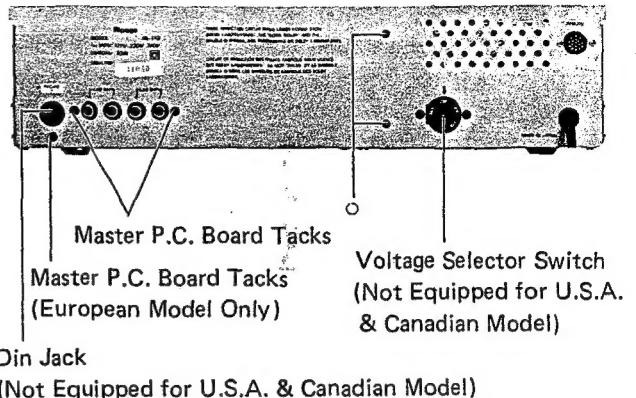


Figure 11

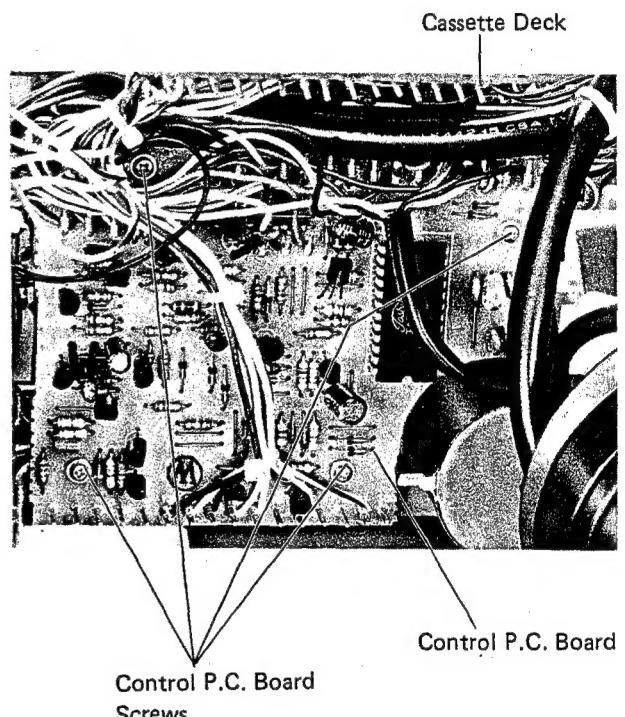


Figure 12

Adjustment Procedures

| Step | Description | Switch Mode | Adjust Point | Test Point | Connection Instruction | Remarks |
|------|---------------------------|------------------------------|----------------|-------------------|------------------------|---|
| 1 | Head Azimuth Adjustment | Playback EQ: Norm Dolby: Off | "A" Screw | Line Out | Figure, 13, 14 | Test Tape: MTT-114 T.P. Output: Max. |
| 2 | Playback Level Adjustment | Playback EQ: Norm Dolby: Off | VR101 VR102 | T.P. 2 T.P. 2' | Figure 14 | Test Tape: MTT-150 T.P. Output: 580mV |
| 3 | Input Level Adjustment | Record EQ: Metal Dolby: Off | VR1-1 VR1-2 | T.P. 2 T.P. 2' | Figure 15 | Test Signal Line Input: 400 Hz 300mV T.P. Output: 580mV |

| Step | Description | | Switch Mode | Adjust. Point | Test Point | Connection Instruction | Remarks |
|------|---------------------------|------------------------------|---|----------------|---------------------|------------------------|---|
| 4 | 1 | FL Meter Adjustment (0 dB) | Record EQ: Metal Dolby: Off | VR107 VR108 | Level Meter Reading | Figure 15 | At conditions of Step 3. Adjust for 0 dB. |
| | 2 | FL Meter Adjustment (-20 dB) | Record EQ: Metal Dolby: Off | VR109 VR110 | Level Meter Reading | Figure 15 | Test Signal Line Input: 400 Hz 30mV Adjust for "-20" dB. |
| 5 | Rec. Current Adjustment | | Record EQ: Metal Dolby: Off Bias: Cut | VR103 VR104 | T.P. 1 T.P. 1' | Figure 15 | Remove dipping solder on Point "B". Test Signal Line Input: 400Hz 300mV T.P. Output: 0.9mV |
| 6 | Bias Adjustment | | Record Bias: Metal Dolby: Off | VR105 VR106 | T.P. 1 T.P. 1' | Figure 15 | Non-Input T.P. Output: 13mV |
| 7 | Bias Readjustment | | Rec/Play Bias: Metal EQ: Metal Dolby: Off | VR105 VR106 | T.P. 2 T.P. 2' | Figure 15 | At conditions of Step 3 Test Signal Line Input: -25 dB Rec/Play Level (17 kHz/1 kHz) <ul style="list-style-type: none"> • 17 kHz = 1 kHz → OK • 17 kHz > 1 kHz Decrease bias (See Step 6) • 17 kHz < 1 kHz Increase bias (See Step 6) Repeat Step 7 above. |
| 8 | Rec. Current Readjustment | | Rec/Play Bias: Metal EQ: Metal Dolby: Off | VR103 VR104 | T.P. 2 T.P. 2' | Figure 15 | At conditions of Step 3. Rec./Play Level <ul style="list-style-type: none"> • 580mV → OK • > 580mV Decrease rec. current (See Step 5) • < 580mV Increase rec. current (See Step 5) |

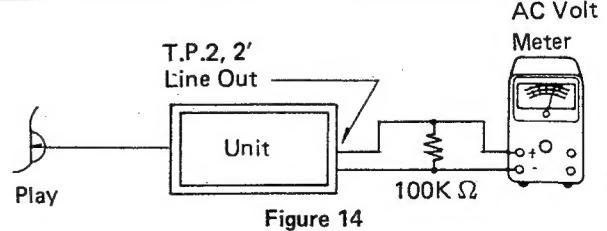
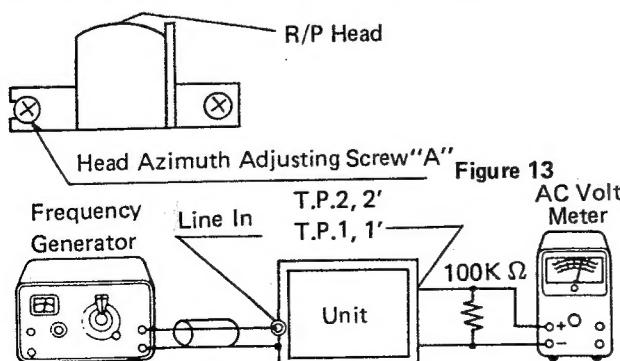
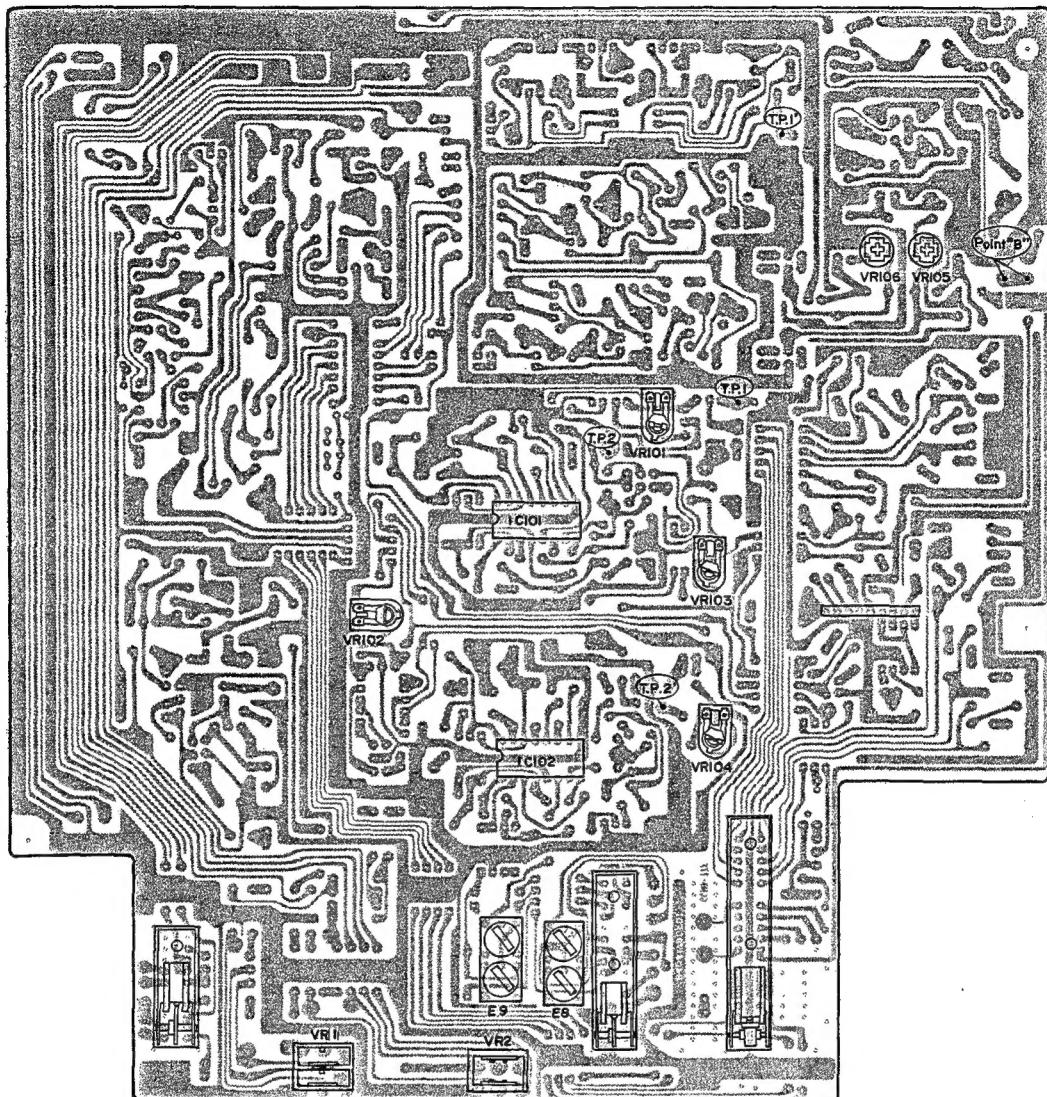
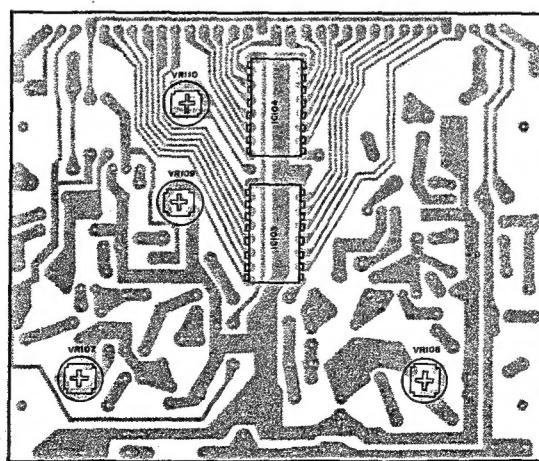


Figure 15

Adjustment Procedures



Master P.C.Board



F.L Meter P.C.Board

Trouble Shooting

| Symtoms & Possible Causes | Symtoms & Possible Causes |
|---|---|
| <p>No power</p> <ol style="list-style-type: none"> 1. Defective power switch 2. Defective DC supply block 3. Defective power connections | <p>Improper tape travel</p> <ol style="list-style-type: none"> 1. Pinch roller misaligned 2. Weak pinch roller pressure 3. Capstan defective 4. Pinch roller defective 5. Record/Play head misadjusted |
| <p>No power to motor</p> <ol style="list-style-type: none"> 1. Defective motor 2. Defective servo 3. Defective start switch | <p>Tape speed too fast/slow</p> <ol style="list-style-type: none"> 1. Defective cassette tape 2. Defective motor 3. Defective servo |
| <p>Distorted sound</p> <ol style="list-style-type: none"> 1. Record/Play head dirty 2. Defective cassette tape 3. Record/Play head magnetized 4. Record/Play head defective | <p>Tape does not move</p> <ol style="list-style-type: none"> 1. Defective cassette tape 2. Defective motor 3. Defective servo 4. Drive belt off 5. Reel hub defective 6. Pinch roller not contacting capstan 7. Defective power connections 8. Cassette loaded incorrectly 9. Drive belt out of place |
| <p>High frequency deteriorated</p> <ol style="list-style-type: none"> 1. Playback Azimuth improperly adjusted 2. Record/Play head dirty 3. Record/Play head magnetized 4. Excessive Wow/Flutter 5. Incorrect tape travel 6. Record/Play head defective 7. Cassette tape defective | <p>Drive Belt out of place</p> <ol style="list-style-type: none"> 1. Idler pulley misaligned 2. Motor misaligned 3. Drive belt defective 4. Excessive clearance between flywheel and flywheel holder |
| <p>Excessive Wow/Flutter</p> <ol style="list-style-type: none"> 1. Flywheel assembly defective 2. Motor defective 3. Defective servo 4. Drive belt defective 5. Pinch roller assembly defective 6. Slippage between tape and pinch roller 7. Idler pulley defective 8. No clearance between flywheel and thrust screw 9. Tape counter defective 10. Excessive back-tension 11. Improper take-up torque 12. Defective tape cassette | <p>Does not record</p> <ol style="list-style-type: none"> 1. Record/Play head defective 2. Record/Play head dirty 3. Record amp defective 4. Defective record interlock switch 5. Cassette has safety tabs removed 6. Broken head wire 7. Bias oscillator defective 8. Input jack defective 9. Defective mute switch |
| <p>Signal to Noise Ratio Deteriorated</p> <ol style="list-style-type: none"> 1. Record/Play head magnetized 2. Record/Play head dirty 3. Record/Play head defective 4. Output amplifier defective 5. Cassette tape defective | <p>Does not playback</p> <ol style="list-style-type: none"> 1. Record/Play head dirty 2. Record/Play head defective 3. Defective playback amplifier 4. Defective output buffer amplifier 5. Defective tape output jack 6. Defective mute switch 7. Defective Dolby circuit 8. Wire between Record/Play head and playback amplifier broken 9. Improper tape travel 10. Defective preamp output jack |
| <p>Loss of channel separation</p> <ol style="list-style-type: none"> 1. Improper tape travel 2. Record/Play head defective | |
| <p>Level Variations</p> <ol style="list-style-type: none"> 1. Record/Play head dirty 2. Record/Play head defective 3. Record/Play head misaligned 4. Cassette tape defective | |

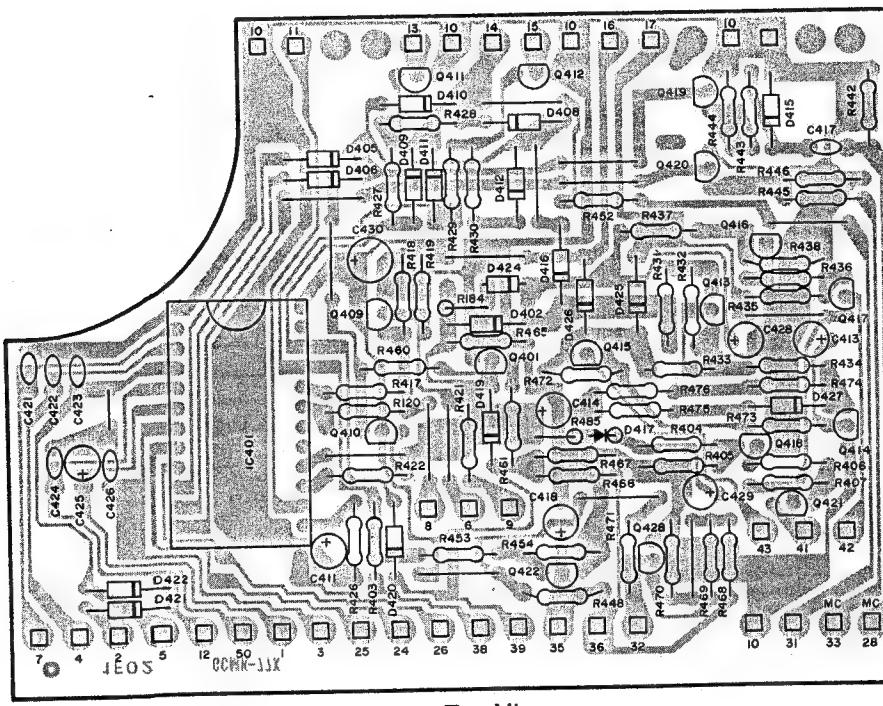
| Symptoms & Possible Causes | |
|------------------------------|--|
| Does not erase | |
| 1. Defective erase head | |
| 2. Erase head dirty | |
| 3. Bias oscillator defective | |
| 4. Broken wire on head | |

CHECKS TO BE PERFORMED AFTER REPAIR

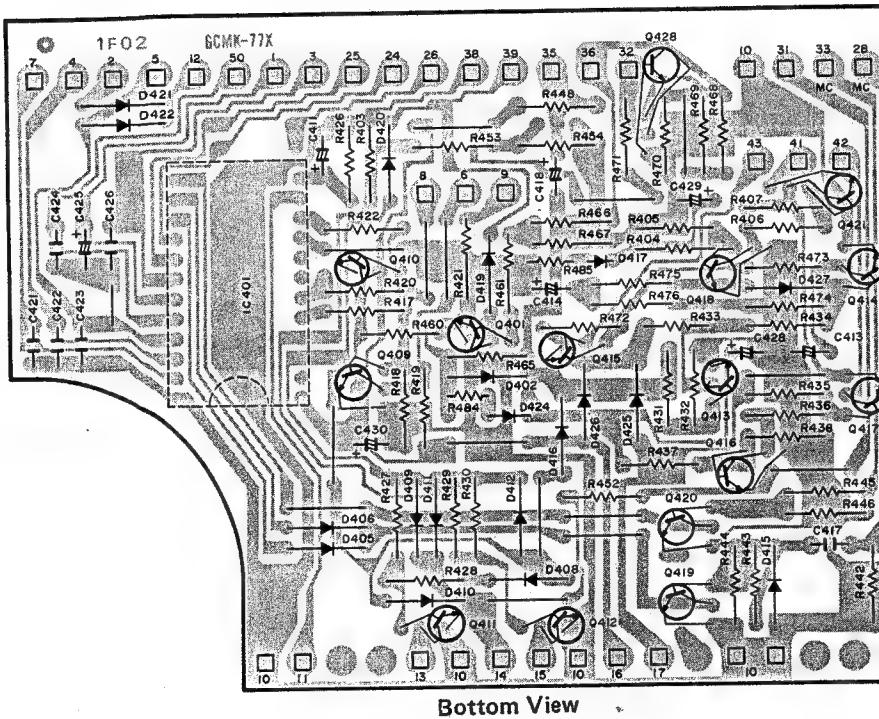
| Replaced Parts & Checks | Replaced Parts & Checks |
|--|-------------------------|
| Drive belt | Pinch roller |
| 1. Belt position | 1. Tape travel |
| 2. Tape speed | 2. Tape speed |
| 3. Wow/Flutter | 3. Azimuth/height |
| Motor | 4. Wow/flutter |
| 1. Tape speed | Tape counter |
| 2. Wow/Flutter | 1. Tape speed |
| 3. Drive belt position | 2. Auto-shut off |
| Record/Play head | 3. Counter |
| 1. Inclination of Record/Play head | 4. Wow/Flutter |
| 2. Azimuth/height | Reel Hub |
| 3. Tape travel | 1. Torque check |
| 4. Playback output | 2. Tape speed |
| 5. Playback frequency response | 3. Wow/Flutter |
| 6. Signal to noise ratio | |
| 7. Record/Play response | |
| Flywheel | |
| 1. Clearance between flywheel and thrust screw | |
| 2. Tape travel | |
| 3. Azimuth/height | |
| 4. Tape speed | |

Printed Circuit Boards

Control P.C. Board

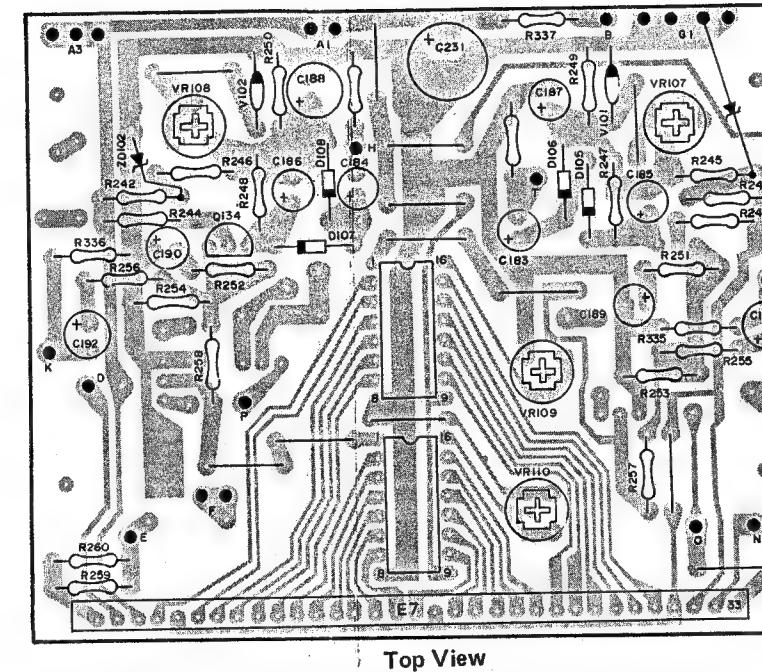


Top View

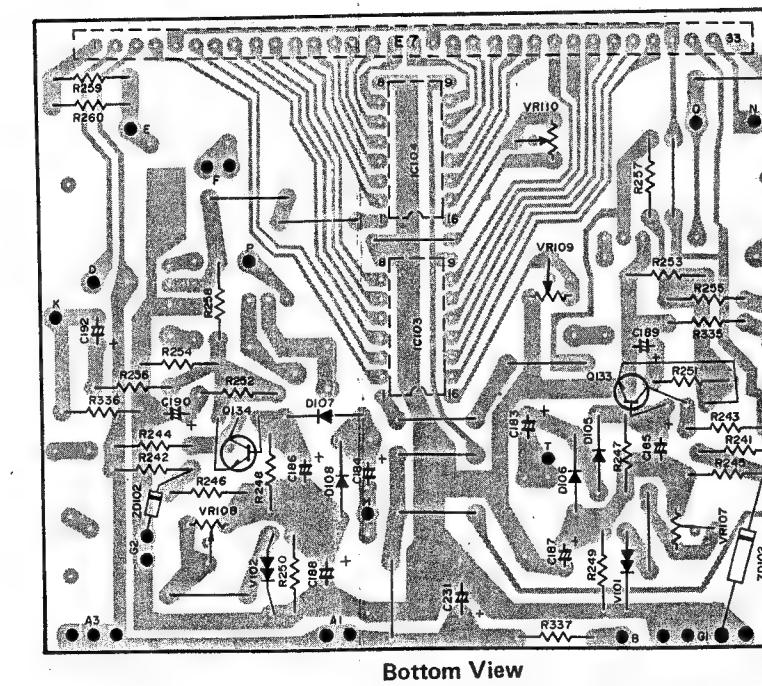


Bottom View

F.L Counter P.C. Board

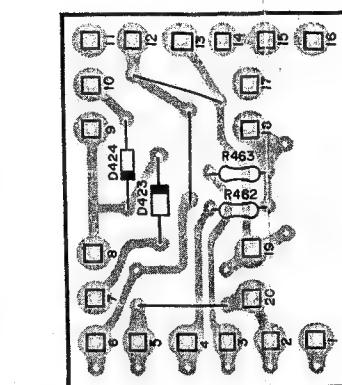


Top View

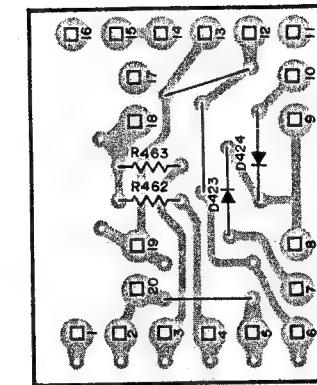


Bottom View

Terminal P.C. Board

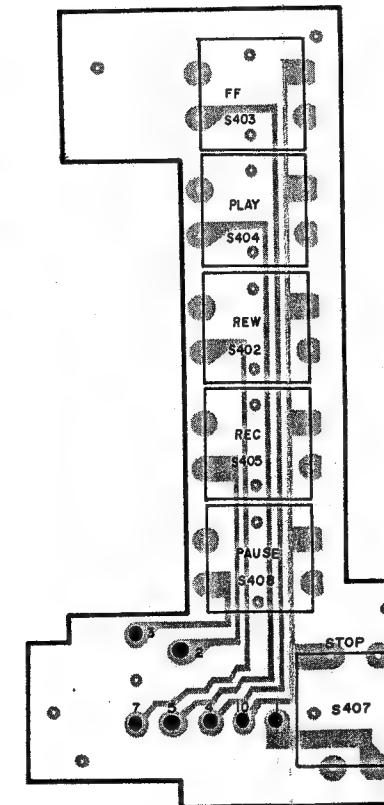


Top View

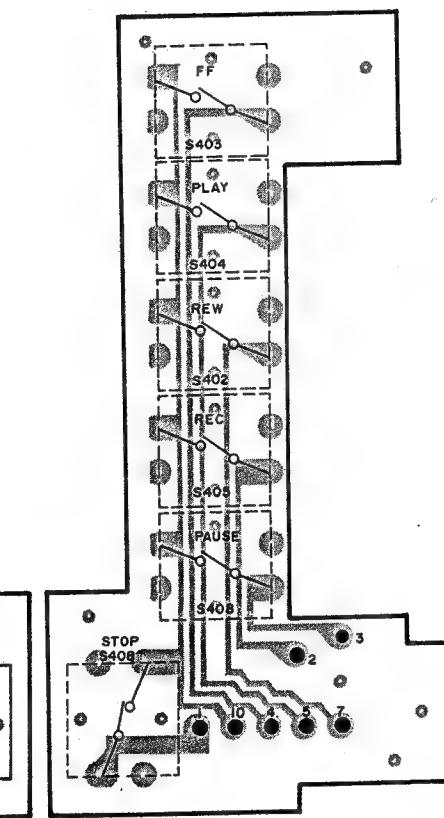


Bottom View

Key Swich P.C. Board

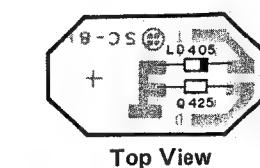


Top View

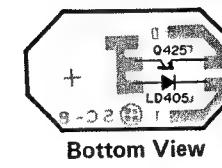


Bottom View

Sensor P.C. Board



Top View



Bottom View

LED P.C. Board

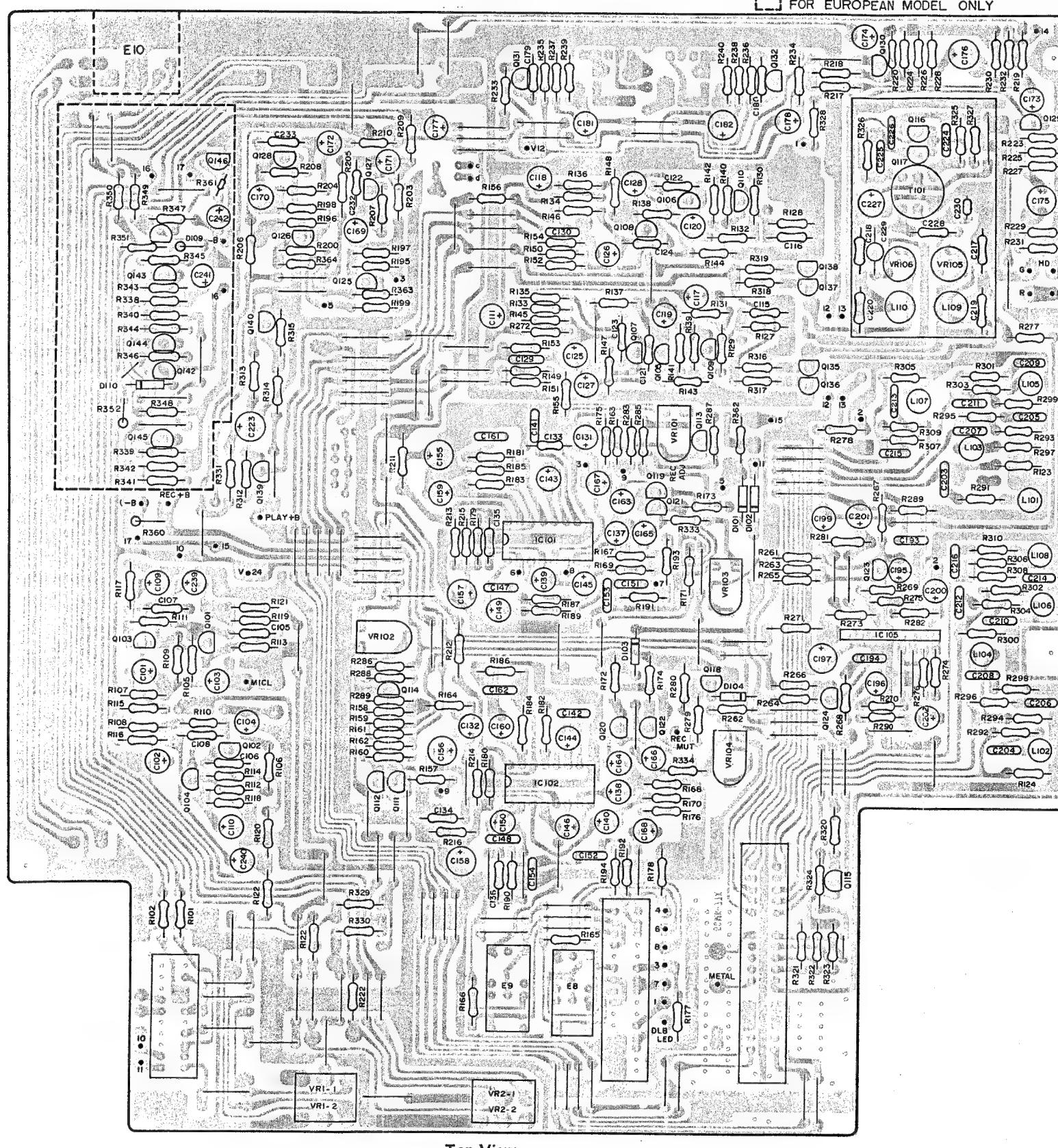


Top View

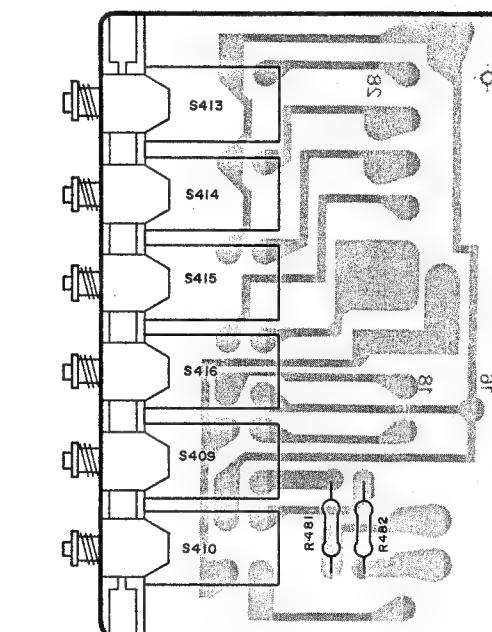


Bottom View

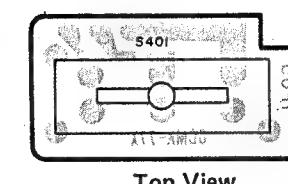
Master P.C. Board



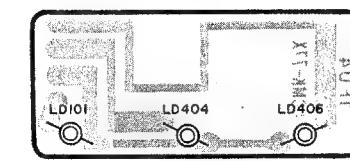
Counter Function Key P.C. Board



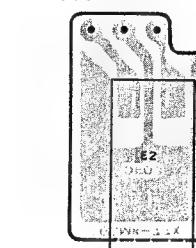
Timer Switch P.C. Board



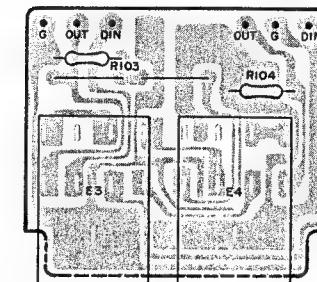
LED P.C. Board



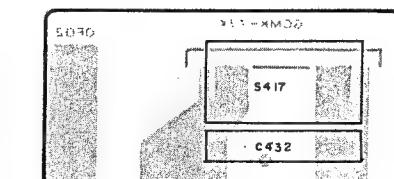
Headphone Jack P.C. Board



Mic Jack P.C. Board



Switch P.C. Board
(For U.S.A./Canadian Model only)

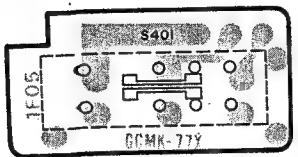


FOR EUROPEAN MODEL ONLY

Master P.C.Board

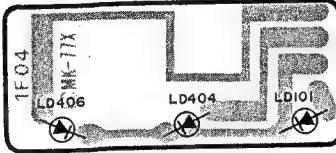
Counter Function Key P.C.Board

Timer Switch P.C. Board



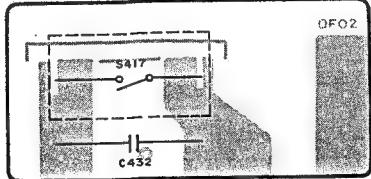
Bottom View

LED P.C. Board



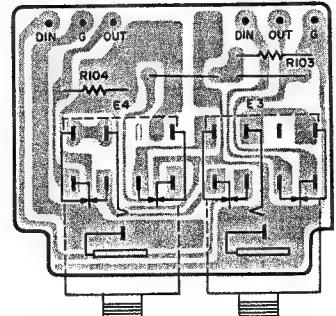
Bottom View

Switch P.C. Board
(For U.S.A./Canadian Model only)



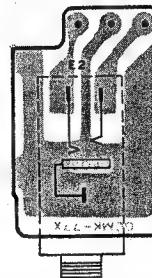
Bottom View

Mic Jack P.C.Boar

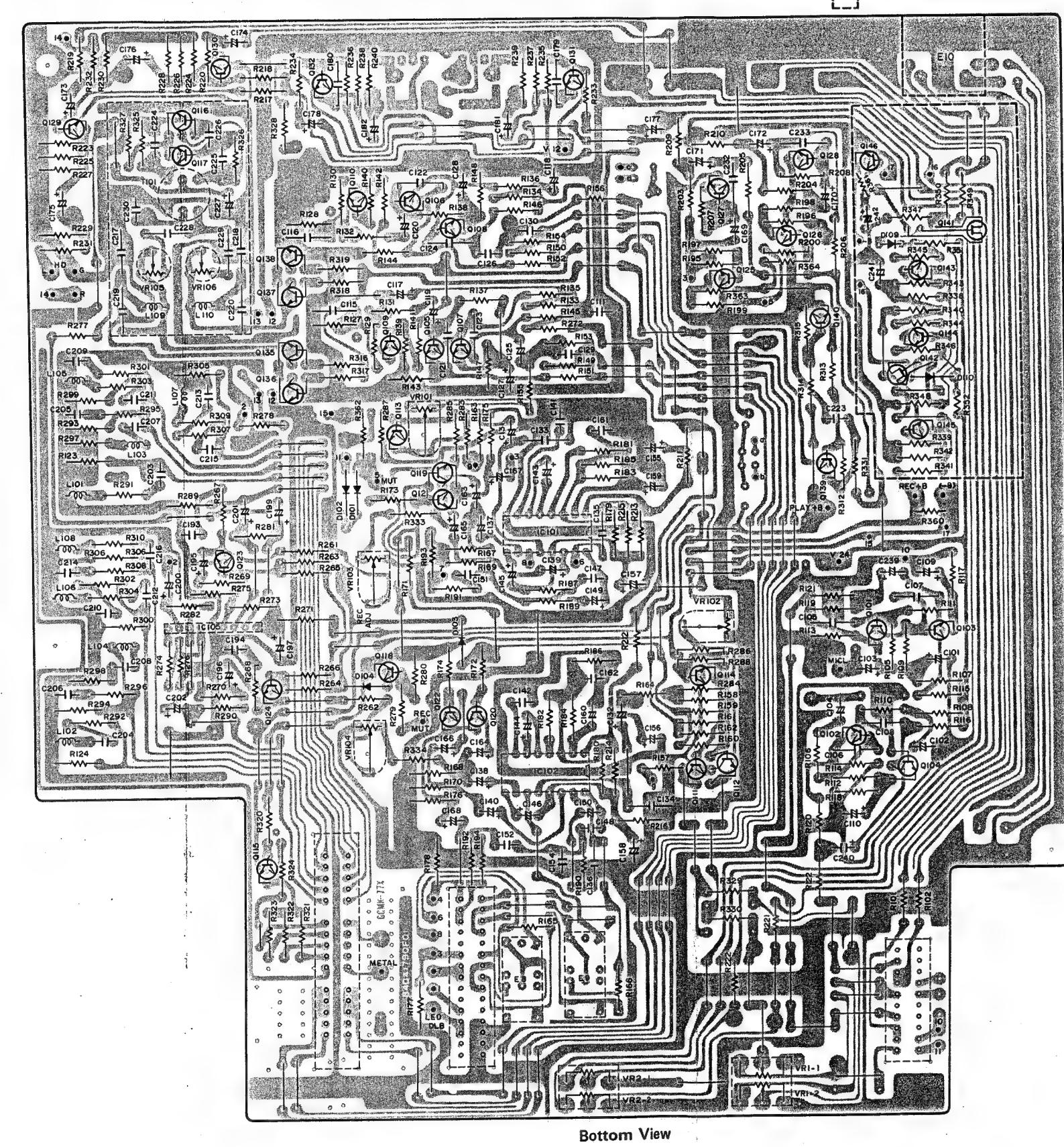


Bottom Vie

Headphone Jack
P.C. Board

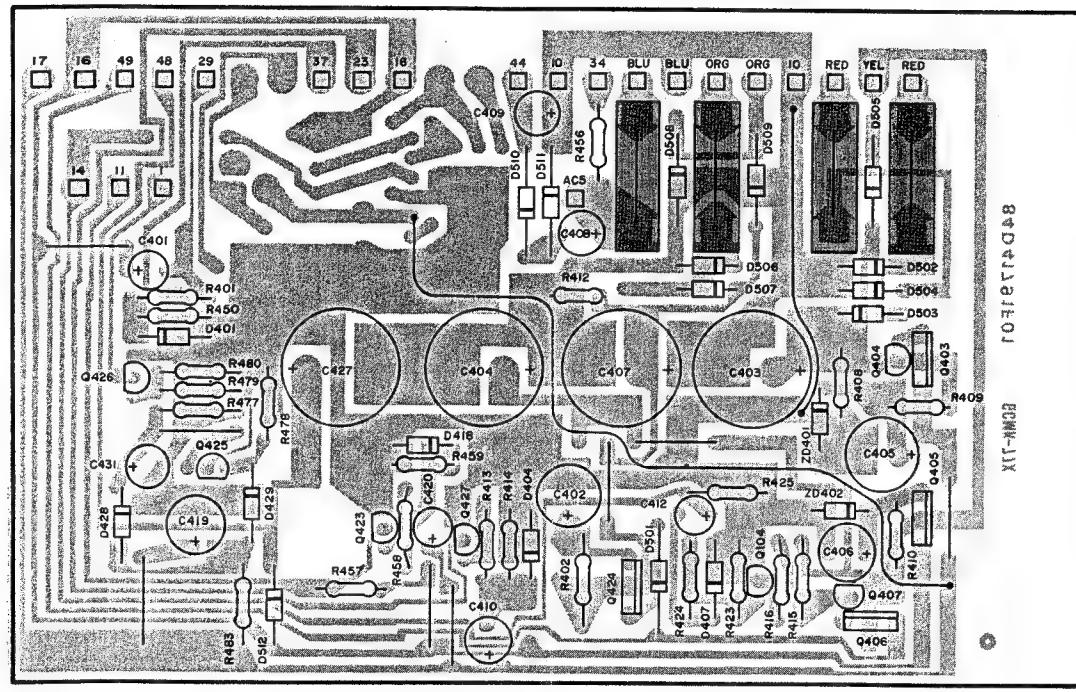


Bottom View

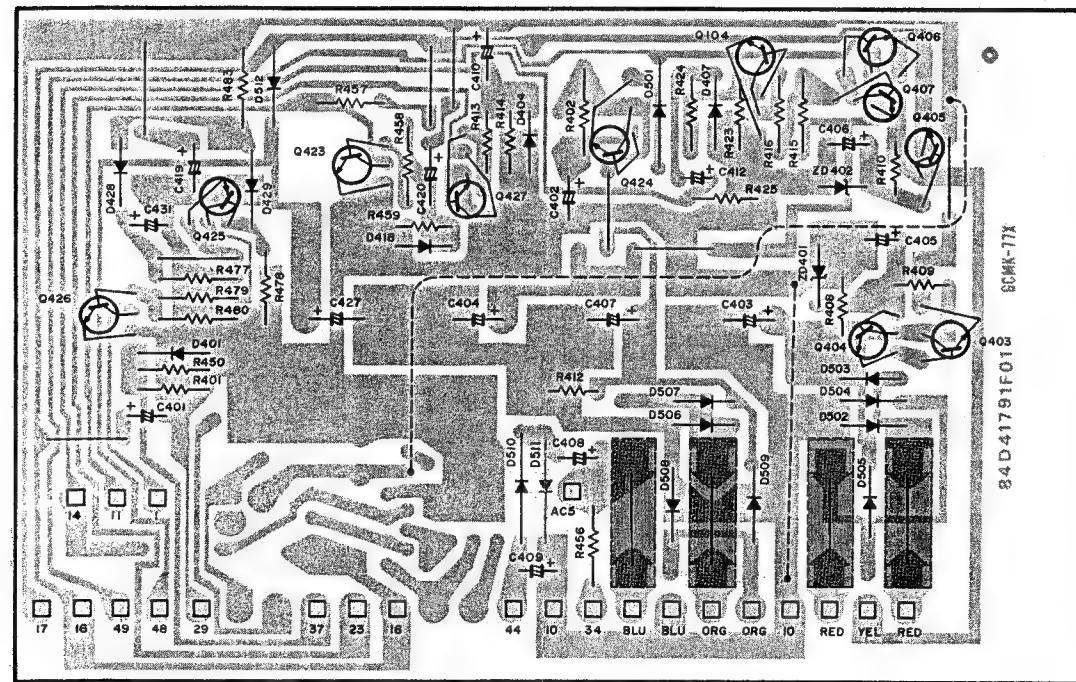


Bottom View

Power Switch P.C. Board



Top View

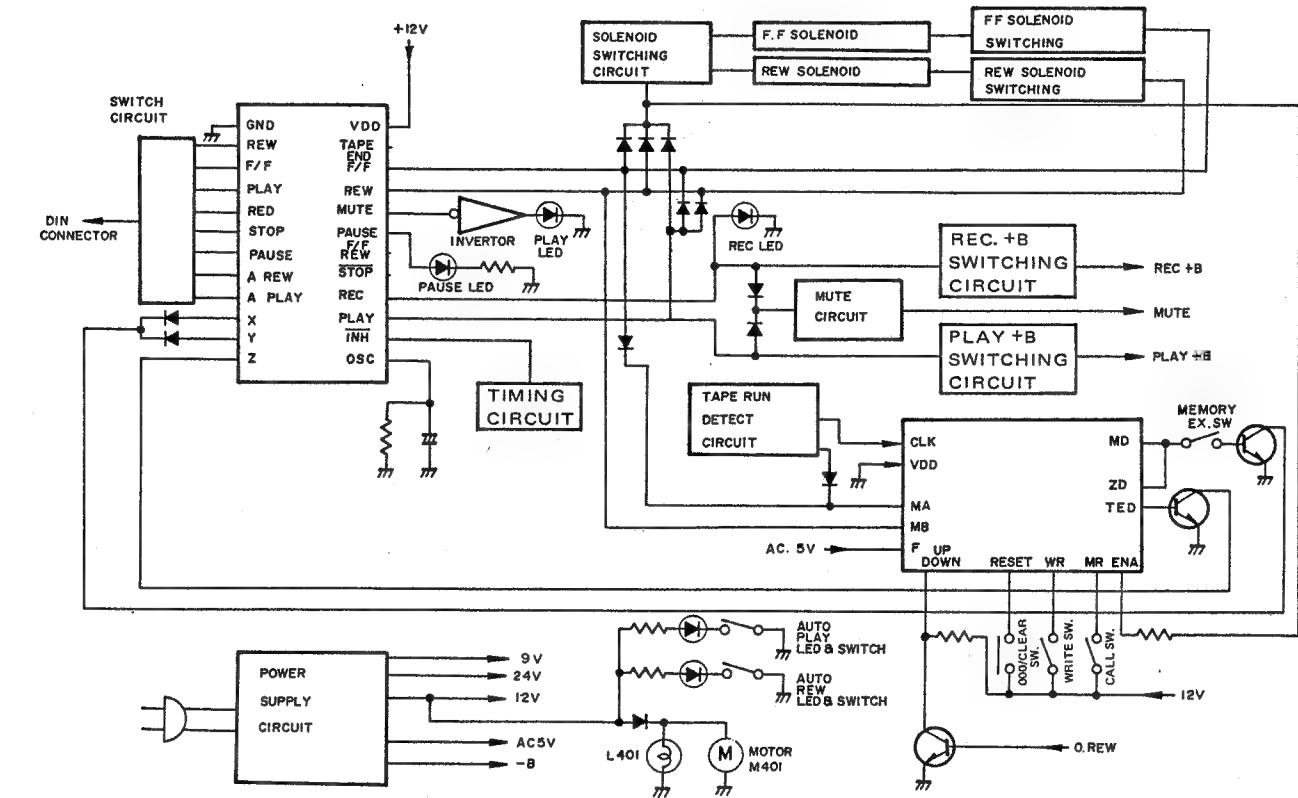
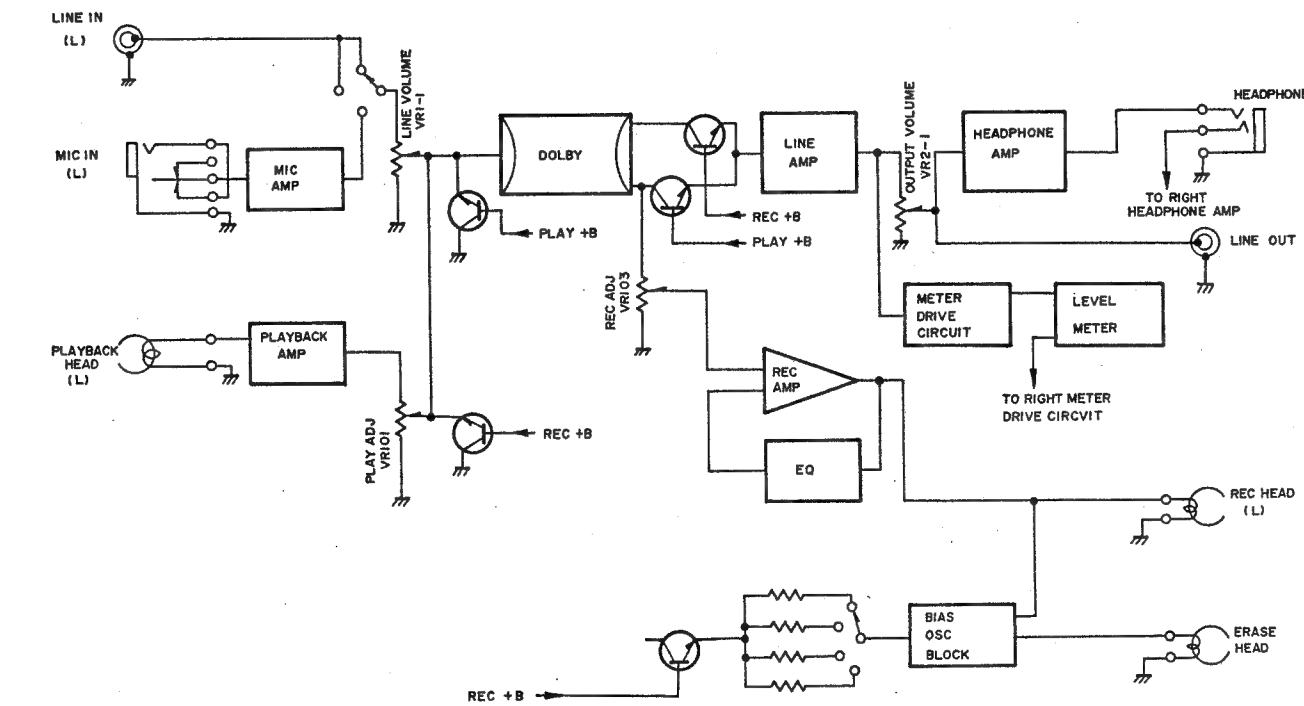


Bottom View

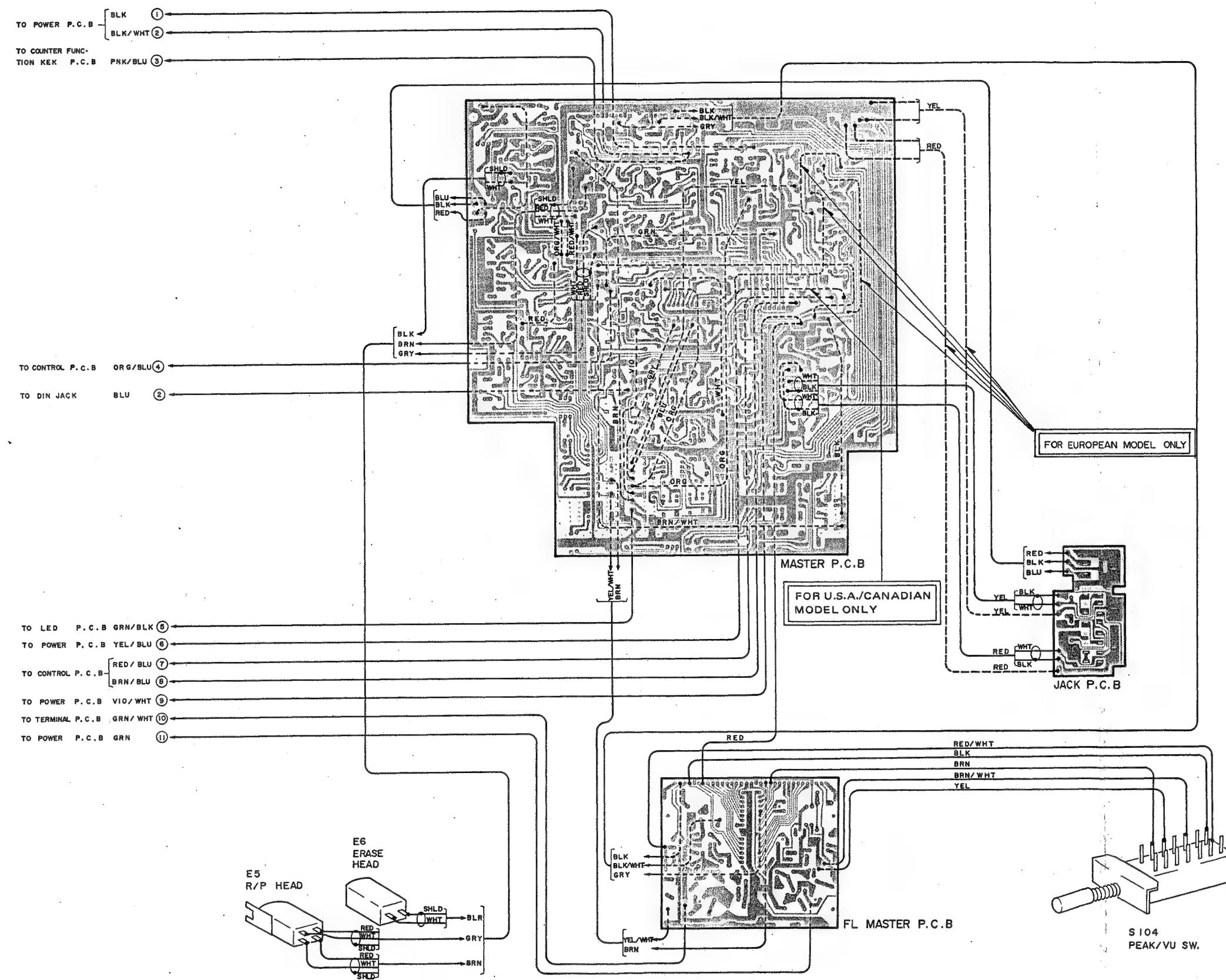
Jumper: U.S.A./CANADA Model Only
Fuse: EUROPE Model Only

Double Screen

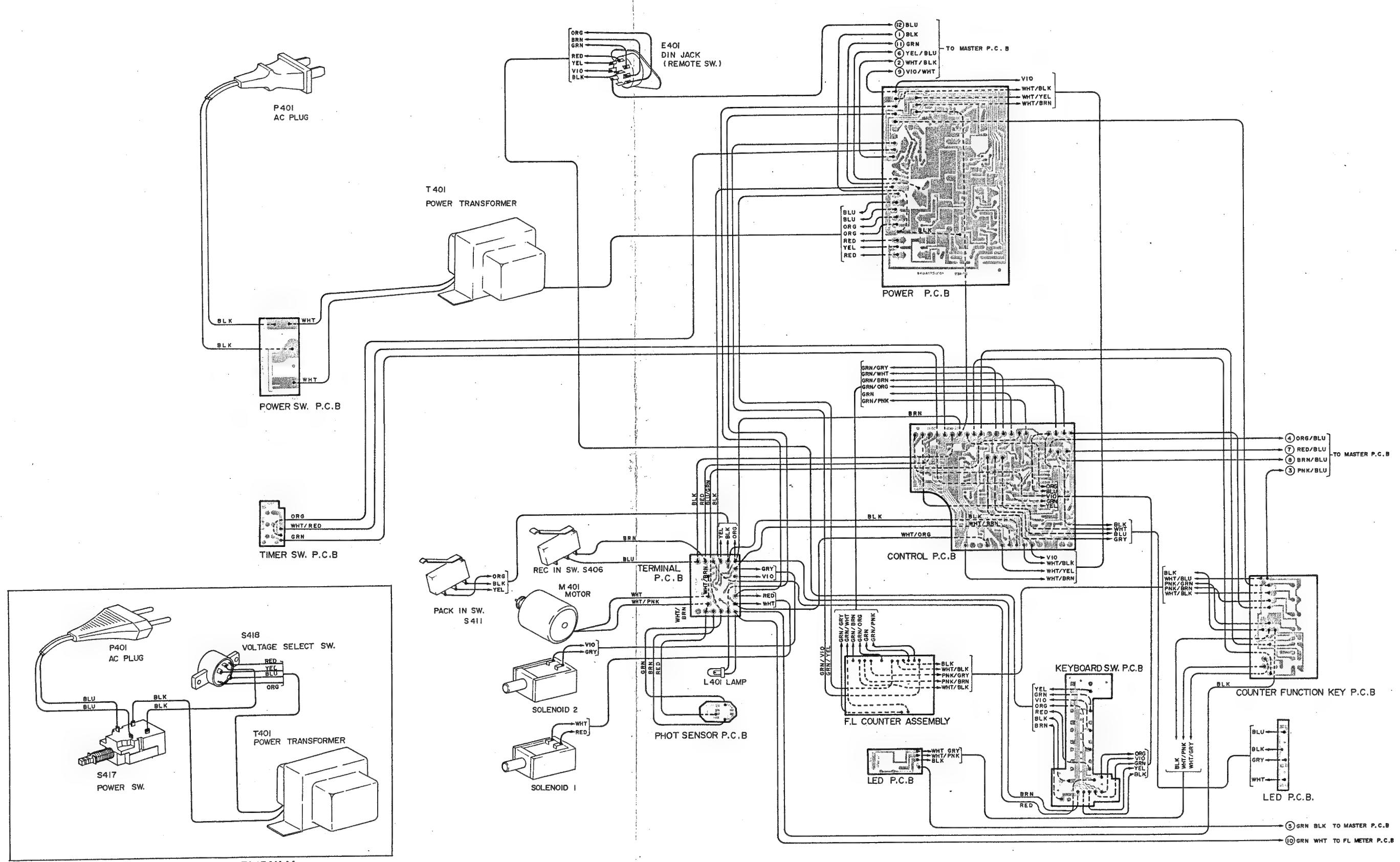
Block Diagram



Wiring Diagram (1/2)

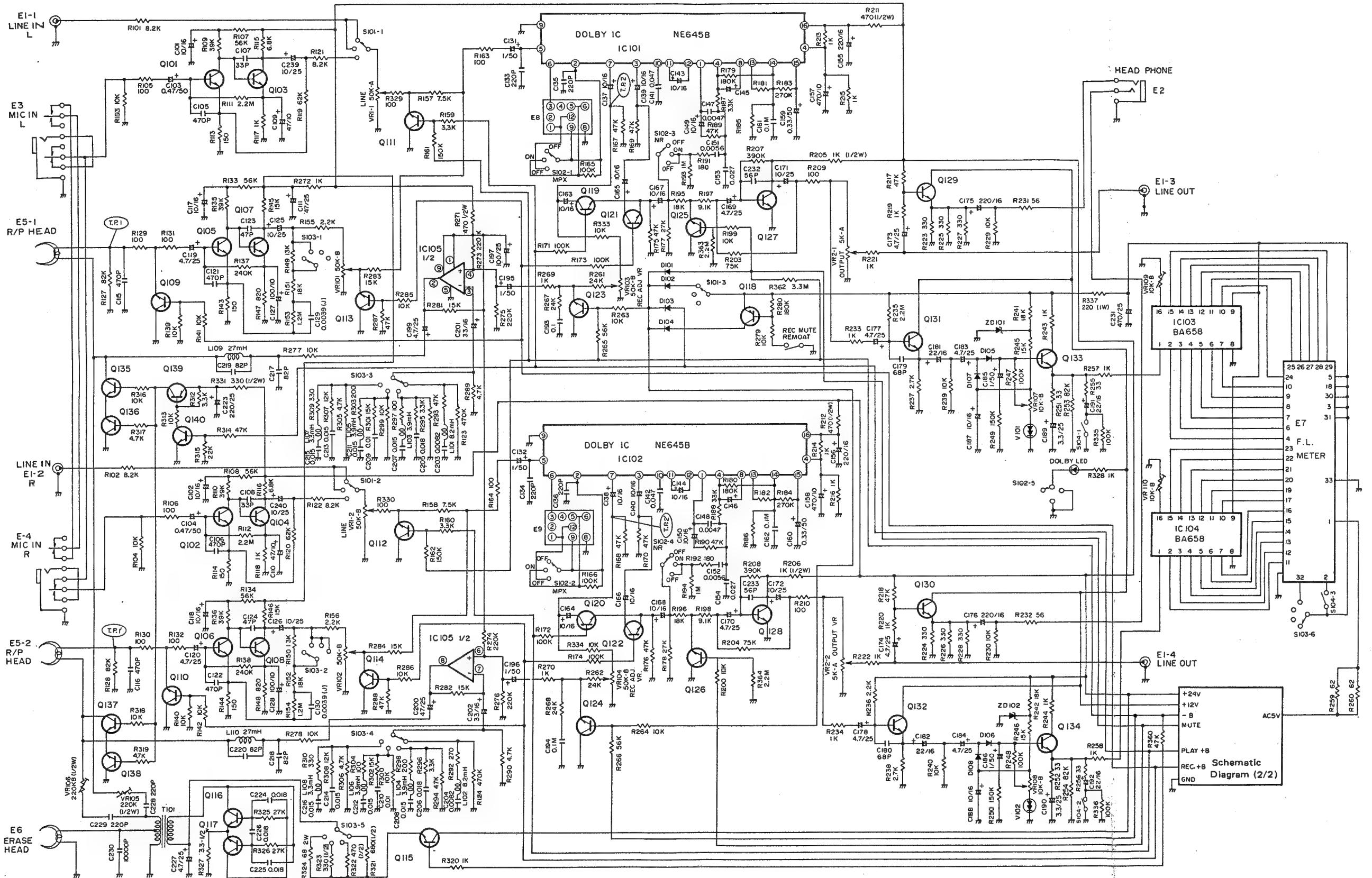


Wiring Diagram (2/2)

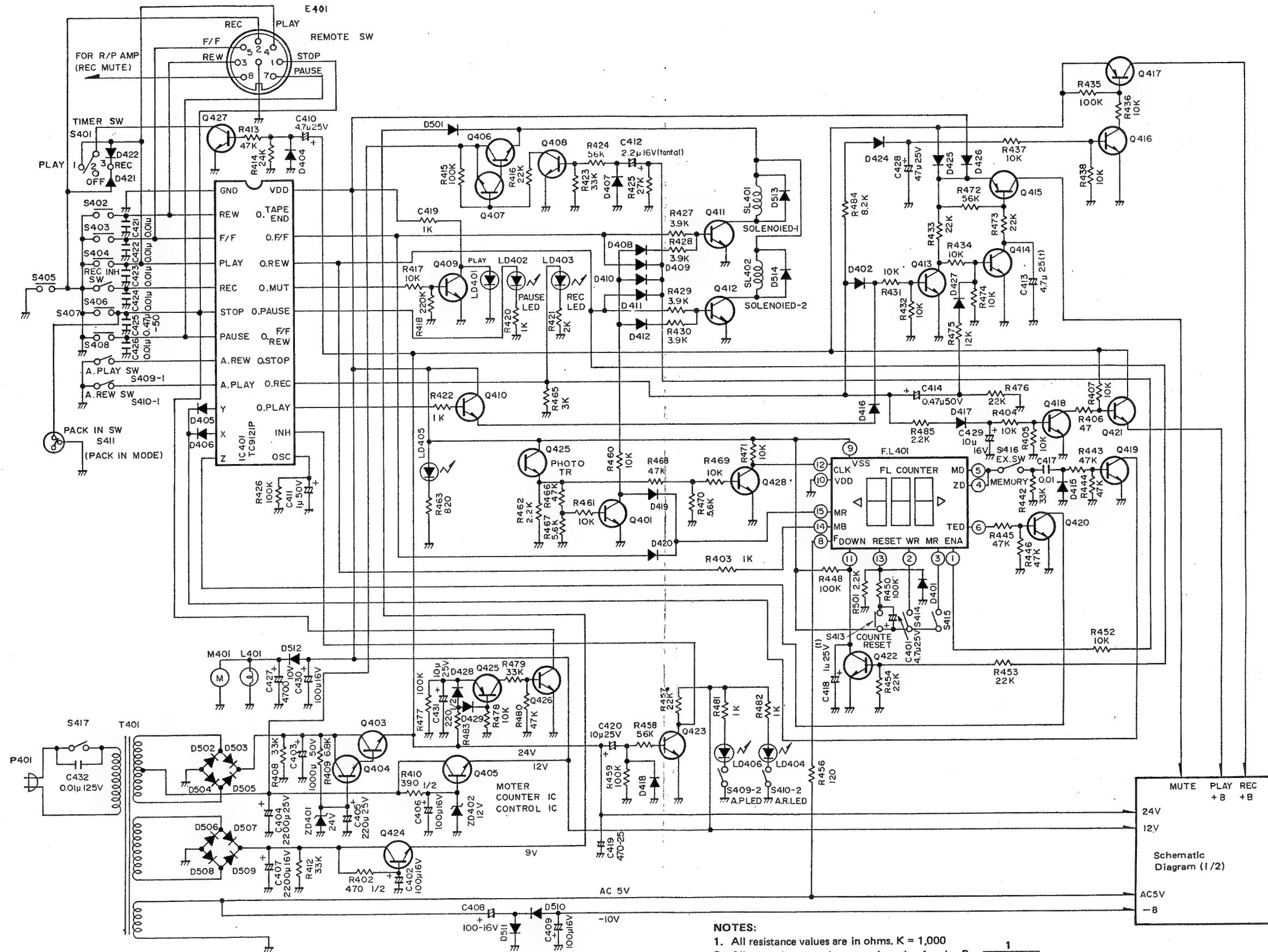


FOR EUROPEAN MODEL ONLY

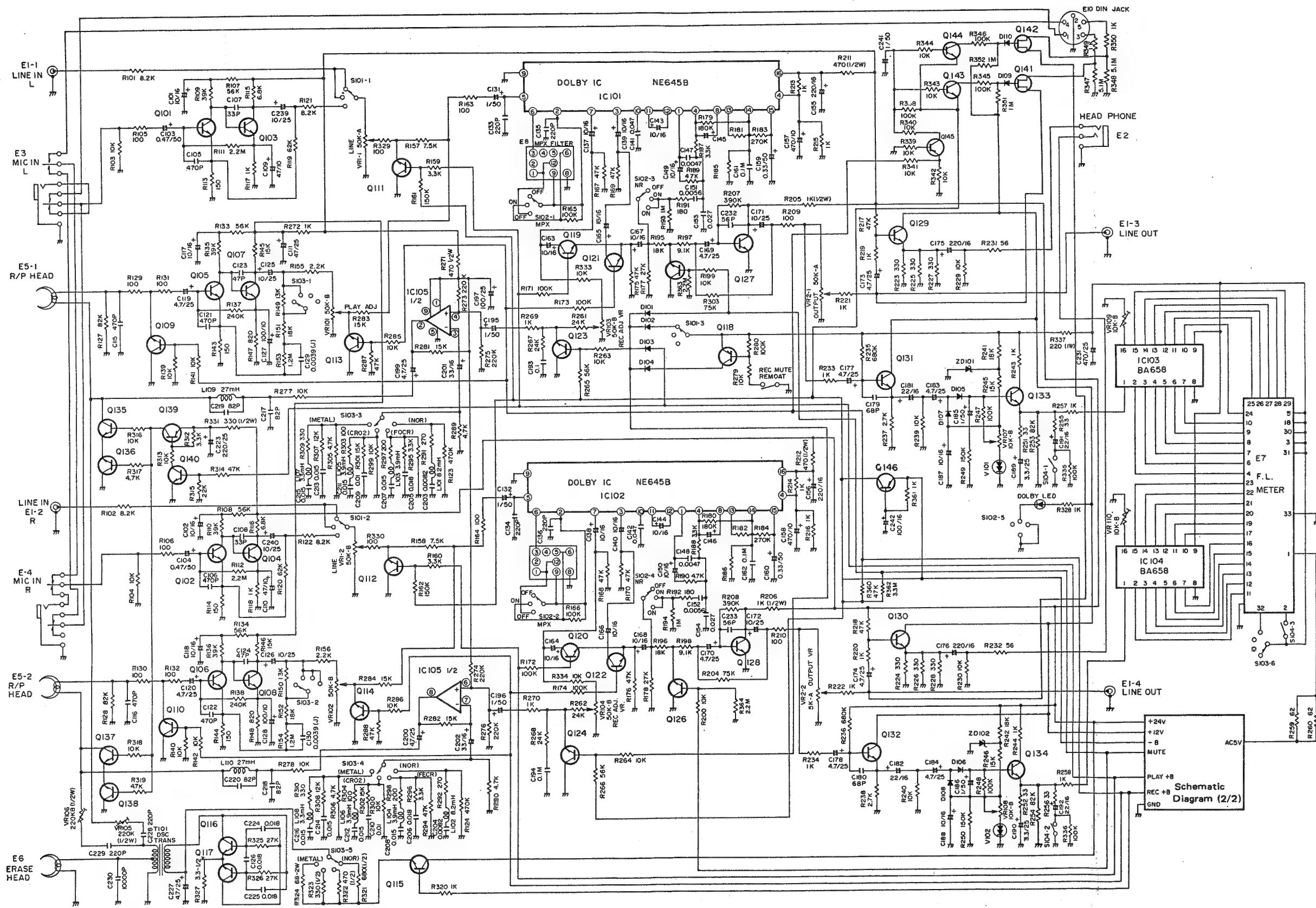
Schematic Diagram (1/2) U.S.A./CANADA



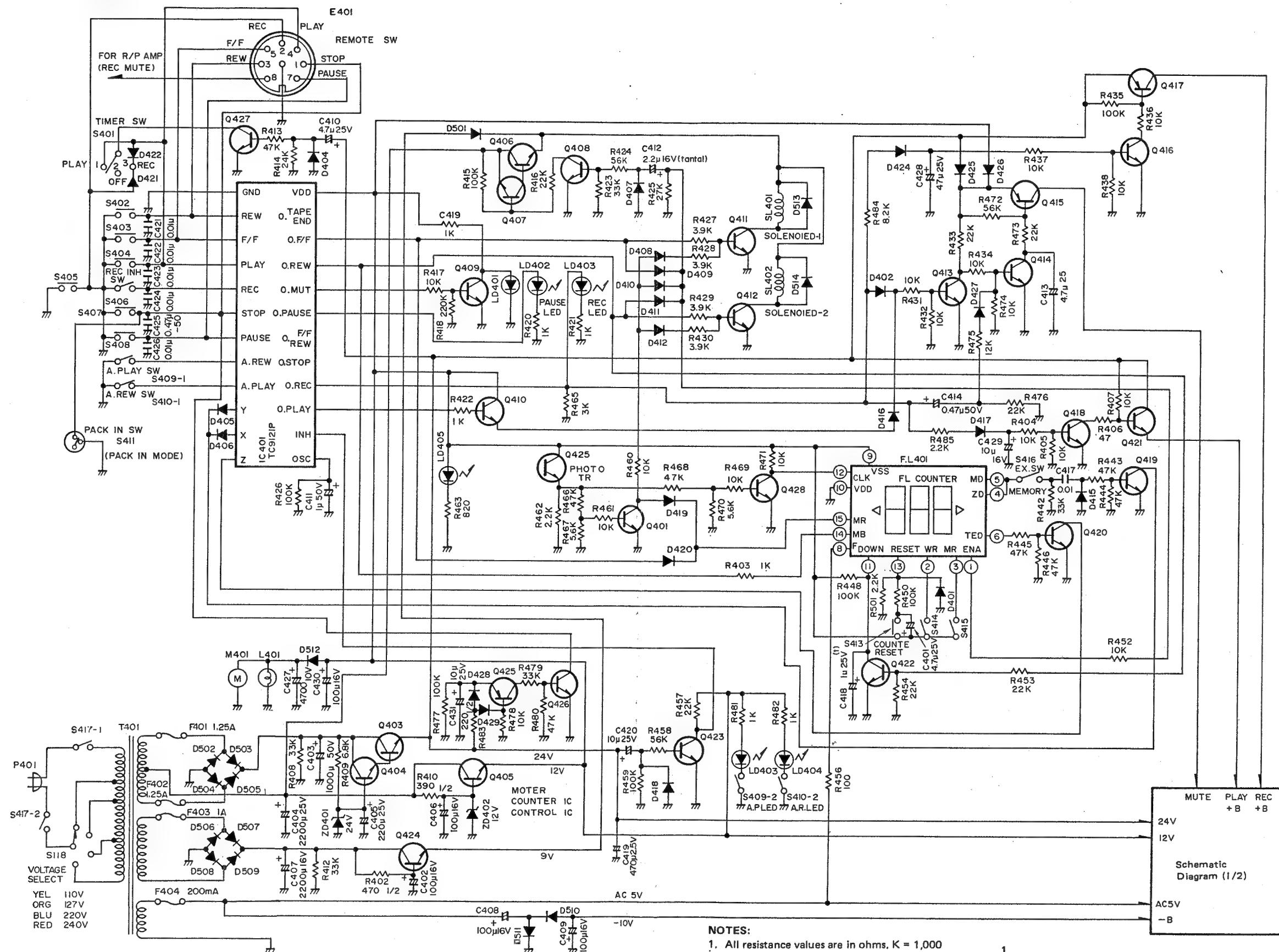
Schematic Diagram (2/2) U.S.A./CANADA



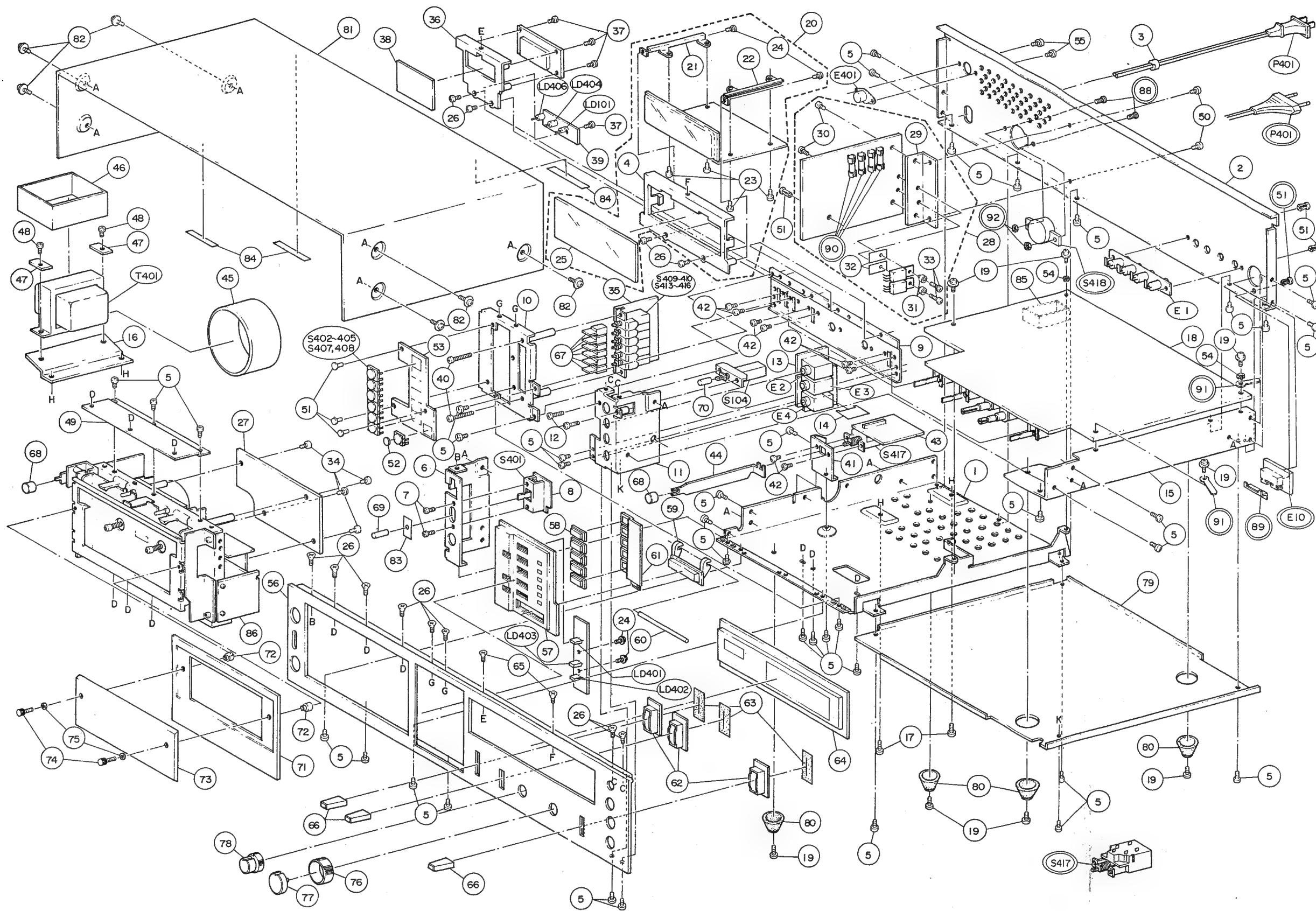
Schematic Diagram (1/2) EUROPE



Schematic Diagram (2/2) EUROPE

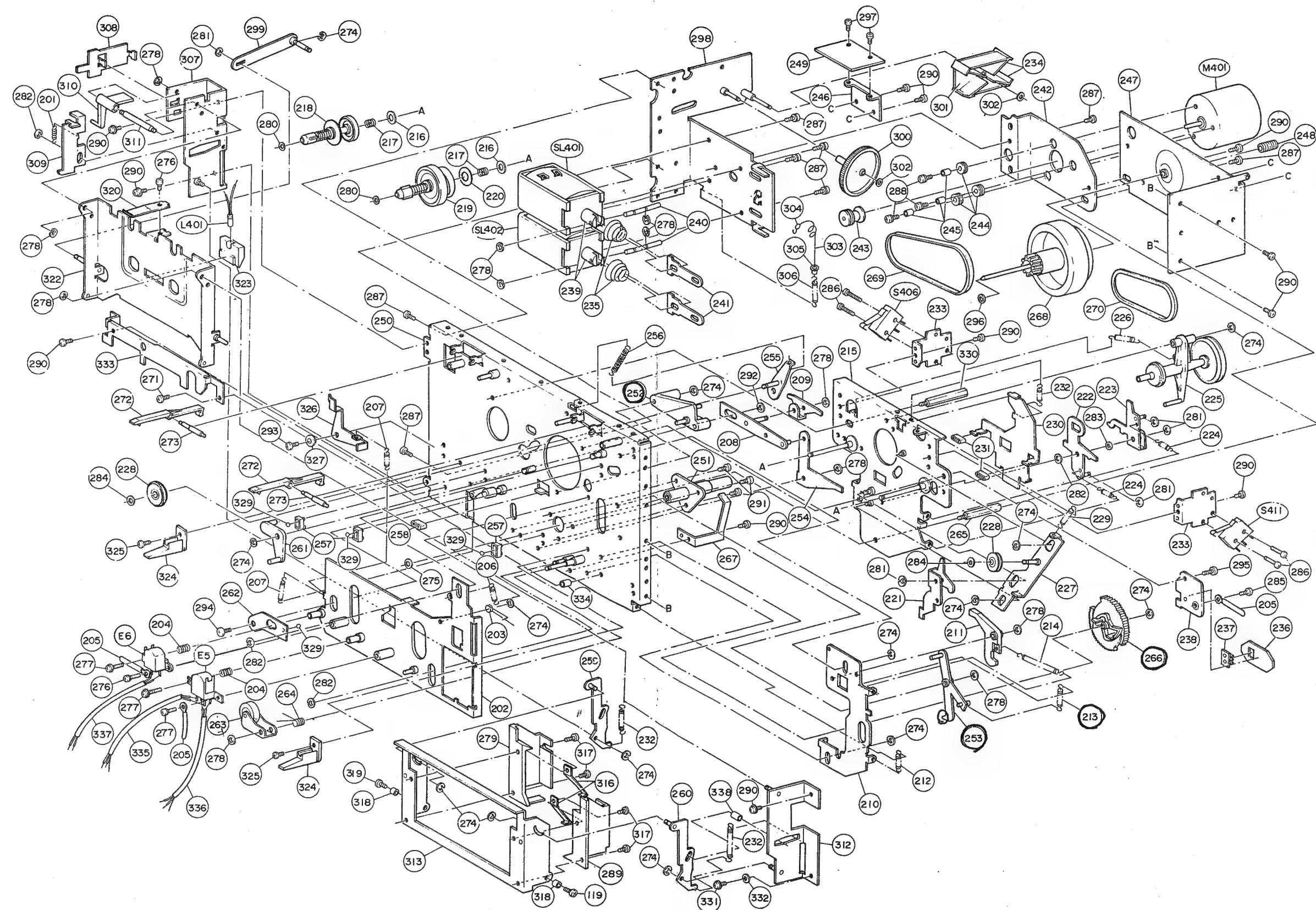


Exploded Views (General)



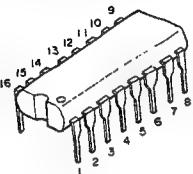
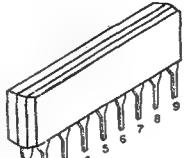
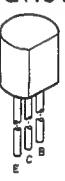
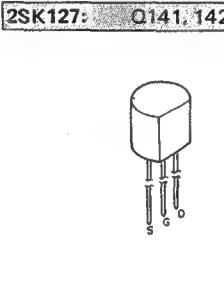
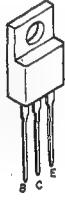
* Symbol numbers enclosed with double-circles are for European model only.

Exploded View (Mechanism)

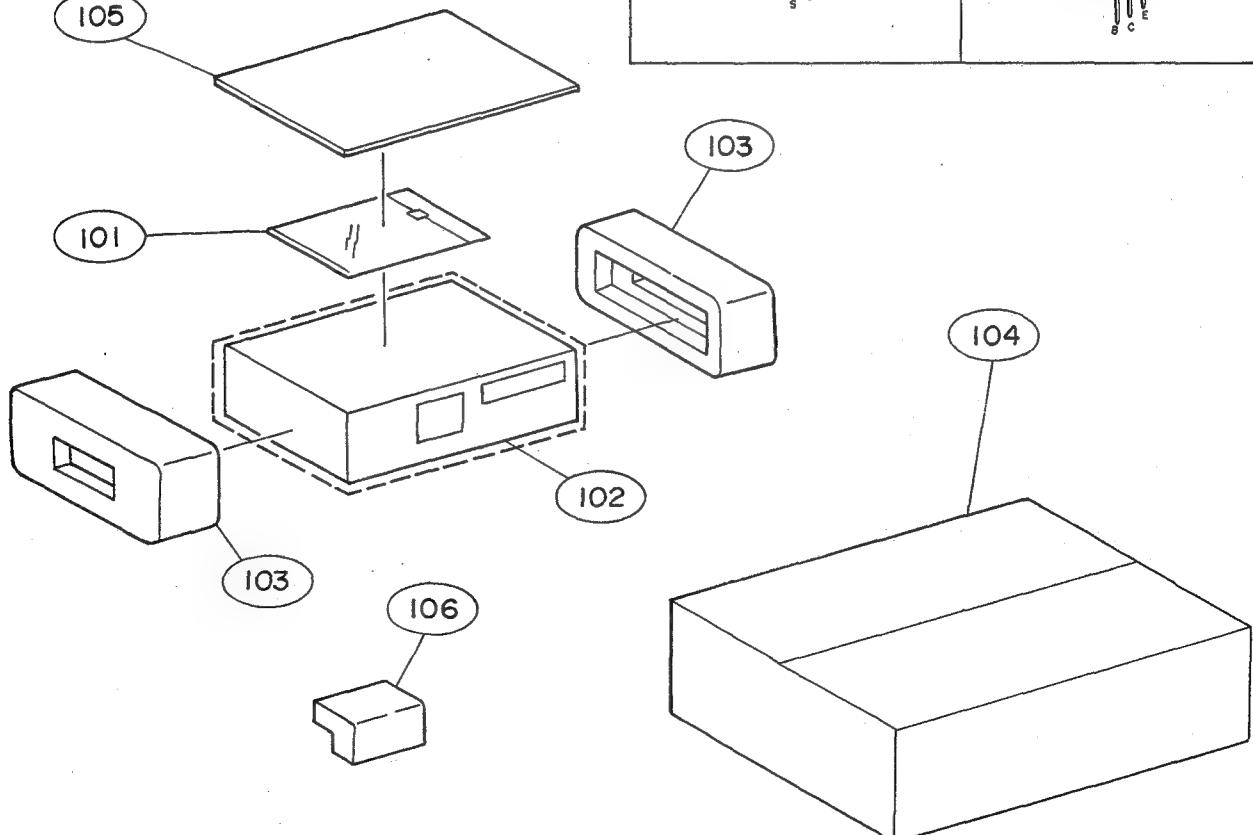


Semiconductor Lead Identifications

For European Model only.

| | | | |
|---|--|--|---|
| NE645B: IC101, 102 BA658A: IC103, 104  | AN6551: IC105  | 2SC900E: Q103, 104, Q119 2SA733BL: Q118, 139 to 128, Q131, 132, Q133, 134, Q140, Q143, 144, Q145, 146, Q107 to 114, Q401, 404, Q408 to 410, Q413, 414, 416, Q418, to 423, Q426 to 428. 2SC1222: Q101, 102, Q105, 106  | 2SD235Y: Q403, 405, 406  |
| 2SC1890: Q135 to 138  | 2SC732BL: Q140, 103, 104 Q119, to 128, 131 132, Q143, 144  | 2SC509: Q116, 117  | 2SC1318NCR: Q115, 129, 130 Q411, 412 2SC1684: Q401, 409, 410, 414, 416 Q418 to 422  |
| 2SK127: Q141, 142  | | | 2SC1983: Q424  |

Packing Method View



Parts List

| Symbol No. | Part No. | Description |
|--------------------------|-------------|----------------|
| Master P.C. Board | | |
| ICs | | |
| IC101 | 51T40114T01 | NE645B |
| IC102 | 51T40114T01 | NE645B |
| IC105 | 51T40676F01 | AN6551 |
| Diodes | | |
| D101 | 48S134816 | Silicon 1S1555 |
| D102 | 48S134816 | Silicon 1S1555 |
| D103 | 48S134816 | Silicon 1S1555 |
| D104 | 48S134816 | Silicon 1S1555 |
| Transistors | | |
| Q101 | 48S40929P01 | 2SC1222 |
| Q102 | 48S40929P01 | 2SC1222 |
| Q103 | 48S40149P01 | 2SC900E |
| Q104 | 48S40149P01 | 2SC900E |
| Q105 | 48S40929P01 | 2SC1222 |
| Q106 | 48S40929P01 | 2SC1222 |
| Q107 | 48S40149P01 | 2SC900E |
| Q108 | 48S40149P01 | 2SC900E |
| Q109 | 48S40149P01 | 2SC900E |
| Q110 | 48S40149P01 | 2SC900E |
| Q111 | 48S40149P01 | 2SC900E |
| Q112 | 48S40149P01 | 2SC900E |
| Q113 | 48S40149P01 | 2SC900E |
| Q114 | 48S40149P01 | 2SC900E |
| Q115 | 48T40832F03 | 2SC1318NC-R |
| Q116 | 48S43239G02 | 2SC509 |
| Q117 | 48S43239G02 | 2SC509 |
| Q118 | 48T40081T03 | 2SA733BL |
| Q119 | 48S40149P01 | 2SC900E |
| Q120 | 48S40149P01 | 2SC900E |
| Q121 | 48S40149P01 | 2SC900E |
| Q122 | 48S40149P01 | 2SC900E |
| Q123 | 48S40149P01 | 2SC900E |
| Q124 | 48S40149P01 | 2SC900E |
| Q125 | 48S40149P01 | 2SC900E |
| Q126 | 48S40149P01 | 2SC900E |
| Q127 | 48S40149P01 | 2SC900E |
| Q128 | 48S40149P01 | 2SC900E |

| Symbol No. | Part No. | Description |
|--------------------|---------------------------------------|--------------------------------|
| Q129 | 48T40832F03 | 2SC1318NC-R |
| Q130 | 48T40832F03 | 2SC1318NC-R |
| Q131 | 48S40149P01 | 2SC900E |
| Q132 | 48S40149P01 | 2SC900E |
| Q135 | 48T43394P01 | 2SC1890 |
| Q136 | 48T43394P01 | 2SC1890 |
| Q137 | 48T43394P01 | 2SC1890 |
| Q138 | 48T43394P01 | 3SC1890 |
| Q139 | 48T40081T03 | 2SA733BL |
| Q140 | 48S40149P01 | 2SC900E |
| | 2SC900E used as sameas 48S40246G01 | 2SC732BL |
| Transformer | | |
| T101 | 25T40363F01 | Transformer, OSC |
| Filters | | |
| E8 | 51T42537U01 | MPX Filter |
| E9 | 51T42537U01 | MPX Filter |
| Coils | | |
| L101 | 24S41448F84 | Coil, Ind. Radial 8200 μ H |
| L102 | 24S41448F84 | Coil, Ind. Radial 8200 μ H |
| L103 | 24S41448F80 | Coil, Ind. Radial 3900 μ H |
| L104 | 24S41448F80 | Coil, Ind. Radial 3900 μ H |
| L105 | 24S41448F80 | Coil, Ind. Radial 3900 μ H |
| L106 | 24S41448F80 | Coil, Ind. Radial 3900 μ H |
| L107 | 24S41448F79 | Coil, Ind. Radial 3300 μ H |
| L108 | 24S41448F79 | Coil, Ind. Radial 3300 μ H |
| L109 | 24T44499P01 | Coil, Ind. Radial 27 μ H |
| L110 | 24T44499P01 | Coil, Ind. Radial 27 μ H |

| Symbol No. | Part No. | Description |
|-------------------|-------------|-------------------------------|
| Switches | | |
| S101 | 40T42671U01 | Switch Lever 4C-3P |
| S102 | 40T43860U01 | Switch Lever |
| S103 | 40T41789F01 | Switch Lever SLR564 |
| Capacitors | | |
| C101 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C102 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C103 | 23S40657F27 | Electrolytic 0.47 μ F 50V |
| C104 | 23S40657F27 | Electrolytic 0.47 μ F 50V |
| C105 | 8S44505P45 | Ceramic 470pF |
| C106 | 8S44505P45 | Ceramic 470pF |
| C107 | 8S44505P25 | Ceramic 33pF |
| C108 | 8S44505P25 | Ceramic 33pF |
| C109 | 23S40657F07 | Electrolytic 47 μ F 10V |
| C110 | 23S40657F07 | Electrolytic 47 μ F 10V |
| C111 | 23D44333G26 | Electrolytic 47 μ F 25V |
| C115 | 8S44505P45 | Ceramic 470pF |
| C116 | 8S44505P45 | Ceramic 470pF |
| C117 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C118 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C119 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C120 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C121 | 8S44505P45 | Ceramic 470pF |
| C122 | 8S44505P45 | Ceramic 470pF |
| C123 | 8S44505P29 | Ceramic 47pF |
| C124 | 8S44505P29 | Ceramic 47pF |
| C125 | 23S40657F17 | Electrolytic 10 μ F 25V |
| C126 | 23S40657F17 | Electrolytic 10 μ F 25V |
| C127 | 23D44333G30 | Electrolytic 100 μ F 10V |
| C128 | 23S40657F08 | Electrolytic 100 μ F 10V |
| C129 | 8S40656F08 | Mylar 0.0039 μ F |
| C130 | 8S40656F08 | Mylar 0.0039 μ F |
| C131 | 23S40657F28 | Electrolytic 1 μ F 50V |
| C132 | 23S40657F28 | Electrolytic 1 μ F 50V |
| C133 | 8S44505P41 | Ceramic 220pF |
| C134 | 8S44505P41 | Ceramic 220pF |
| C135 | 8S44505P41 | Ceramic 220pF |
| C136 | 8S44505P41 | Ceramic 220pF |
| C137 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C138 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C139 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C140 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C141 | 8S40656F21 | Mylar 0.047 μ F |
| C142 | 8S40656F21 | Mylar 0.047 μ F |
| C143 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C144 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C147 | 8S40656F09 | Mylar 0.0047 μ F |

| Symbol No. | Part No. | Description |
|------------|-------------|-------------------------------|
| C148 | 8S40656F09 | Mylar 0.0047 μ F |
| C149 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C150 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C151 | 8S40656F10 | Mylar 0.0056 μ F |
| C152 | 8S40656F10 | Mylar 0.0056 μ F |
| C153 | 8S40656F18 | Mylar 0.027 μ F |
| C154 | 8S40656F18 | Mylar 0.027 μ F |
| C155 | 23S41198U41 | Electrolytic 220 μ F 16V |
| C156 | 23S41198U41 | Electrolytic 220 μ F 16V |
| C157 | 23S41198U55 | Electrolytic 470 μ F 10V |
| C158 | 23S41198U55 | Electrolytic 470 μ F 10V |
| C159 | 23T40475U03 | Electrolytic 0.33 μ F 50V |
| C160 | 23T40475U03 | Electrolytic 0.33 μ F 50V |
| C161 | 8S40656F25 | Mylar 0.1 μ F |
| C162 | 8S40656F25 | Mylar 0.1 μ F |
| C163 | 23D44333G08 | Electrolytic 10 μ F 16V |
| C164 | 23D44333G08 | Electrolytic 10 μ F 16V |
| C165 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C166 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C167 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C168 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C169 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C170 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C171 | 23S40657F17 | Electrolytic 10 μ F 25V |
| C172 | 23S40657F17 | Electrolytic 10 μ F 25V |
| C173 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C174 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C175 | 23S41198U41 | Electrolytic 220 μ F 16V |
| C176 | 23S41198U41 | Electrolytic 220 μ F 16V |
| C177 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C178 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C179 | 8S44505P33 | Ceramic 68pF 50V |
| C180 | 8S44505P33 | Ceramic 68pF 50V |
| C181 | 23S40657F11 | Electrolytic 22 μ F 16V |
| C182 | 23S40657F11 | Electrolytic 22 μ F 16V |
| C193 | 8S40656F25 | Mylar 0.1 μ F |
| C194 | 8S40656F25 | Mylar 0.1 μ F |
| C195 | 23T40475U05 | Electrolytic 1 μ F 50V |
| C196 | 23T40475U05 | Electrolytic 1 μ F 50V |
| C197 | 23S41198U35 | Electrolytic 100 μ F 25V |
| C199 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C200 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C201 | 23S40657F12 | Electrolytic 33 μ F 16V |
| C202 | 23S40657F12 | Electrolytic 33 μ F 16V |
| C203 | 8S40656F12 | Mylar 0.0082 μ F |
| C204 | 8S40656F12 | Mylar 0.0082 μ F |
| C205 | 8S40656F16 | Mylar 0.018 μ F |
| C206 | 8S40656F16 | Mylar 0.018 μ F |
| C207 | 8S40656F15 | Mylar 0.015 μ F |
| C208 | 8S40656F15 | Mylar 0.015 μ F |
| C209 | 8S40656F13 | Mylar 0.01 μ F |
| C210 | 8S40656F13 | Mylar 0.01 μ F |
| C211 | 8S40656F15 | Mylar 0.015 μ F |

| Symbol No. | Part No. | Description | | |
|------------|-------------|--------------|---------------|-----|
| C212 | 8S44503P15 | Mylar | 0.015 μ F | 50V |
| C213 | 8S40656F15 | Mylar | 0.015 μ F | |
| C214 | 8S40656F15 | Mylar | 0.015 μ F | |
| C215 | 8S40656F15 | Mylar | 0.015 μ F | |
| C216 | 8S40656F15 | Mylar | 0.015 μ F | |
| C217 | 8S44505P35 | Ceramic | 82p F | |
| C218 | 8S44505P35 | Ceramic | 82p F | |
| C219 | 6S44505P35 | Ceramic | 82p F | |
| C220 | 6S44505P35 | Ceramic | 82p F | |
| C223 | 23S41198U42 | Electrolytic | 220 μ F | 25V |
| C224 | 8S40656F16 | Mylar | 0.018 μ F | |
| C225 | 8S40656F16 | Mylar | 0.018 μ F | |
| C226 | 8S40656F16 | Mylar | 0.018 μ F | |
| C227 | 23S40657F16 | Electrolytic | 4.7 μ F | 25V |
| C228 | 8S44505P41 | Ceramic | 220p F | |
| C229 | 8S44505P41 | Ceramic | 220p F | |
| C230 | 8T42081U49 | Polyethylene | 10000pF | |
| C232 | 8S44505P31 | Ceramic | 56p F | |
| C233 | 8S44505P31 | Ceramic | 56p F | |
| C239 | 23D44333G09 | Electrolytic | 10 μ F | 25V |
| C240 | 23S40657F17 | Electrolytic | 10 μ F | 25V |

Resistors (All resistors are Carbon Film 1/4W, $\pm 5\%$ unless otherwise noted)

| | | |
|------|------------|----------|
| R101 | 6S44593P87 | 8.2K ohm |
| R102 | 6S44593P87 | 8.2K ohm |
| R105 | 6S44593P41 | 100 ohm |
| R106 | 6S44593P41 | 100 ohm |
| R107 | 6S44594P08 | 56K ohm |
| R108 | 6S44593P08 | 56K ohm |
| R109 | 6S44594P04 | 39K ohm |
| R110 | 6S44594P04 | 39K ohm |
| R111 | 6S44594P46 | 2.2M ohm |
| R112 | 6S44594P46 | 2.2M ohm |
| R113 | 6S44593P45 | 150 ohm |
| R114 | 6S44593P45 | 150 ohm |
| R115 | 6S44593P85 | 6.8K ohm |
| R116 | 6S44593P85 | 6.8K ohm |
| R117 | 6S44593P65 | 1K ohm |
| R118 | 6S44593P65 | 1K ohm |
| R119 | 6S44594P09 | 62K ohm |
| R120 | 6S44594P09 | 62K ohm |
| R121 | 6S44593P87 | 8.2K ohm |
| R122 | 6S44593P87 | 8.2K ohm |
| R123 | 6S44594P30 | 470K ohm |
| R124 | 6S44594P30 | 470K ohm |
| R127 | 6S44594P12 | 82K ohm |
| R128 | 6S44594P12 | 82K ohm |

| Symbol No. | Part No. | Description | | |
|------------|------------|-------------|--|--|
| R129 | 6S44593P41 | 100 ohm | | |
| R130 | 6S44593P41 | 100 ohm | | |
| R131 | 6S44593P41 | 100 ohm | | |
| R132 | 6S44593P41 | 100 ohm | | |
| R133 | 6S44594P08 | 56K ohm | | |
| R134 | 6S44594P08 | 56K ohm | | |
| R135 | 6S44594P04 | 39K ohm | | |
| R136 | 6S44594P04 | 39K ohm | | |
| R137 | 6S44594P23 | 240K ohm | | |
| R138 | 6S44594P23 | 240K ohm | | |
| R139 | 6S44593P89 | 10K ohm | | |
| R140 | 6S44593P89 | 10K ohm | | |
| R141 | 6S44593P89 | 10K ohm | | |
| R142 | 6S44593P89 | 10K ohm | | |
| R143 | 6S44593P45 | 150 ohm | | |
| R144 | 6S44593P45 | 150 ohm | | |
| R145 | 6S44593P93 | 15K ohm | | |
| R146 | 6S44593P93 | 15K ohm | | |
| R147 | 6S44593P63 | 820 ohm | | |
| R148 | 6S44593P63 | 820 ohm | | |
| R149 | 6S44593P92 | 13K ohm | | |
| R150 | 6S44593P92 | 13K ohm | | |
| R151 | 6S44593P95 | 18K ohm | | |
| R152 | 6S44593P95 | 18K ohm | | |
| R153 | 6S44594P40 | 1.2M ohm | | |
| R154 | 6S44594P40 | 1.2M ohm | | |
| R155 | 6S44593P73 | 2.2K ohm | | |
| R156 | 6S44593P73 | 2.2K ohm | | |
| R157 | 6S44593P86 | 7.5K ohm | | |
| R158 | 6S44593P86 | 7.5K ohm | | |
| R159 | 6S44593P77 | 3.3K ohm | | |
| R160 | 6S44593P77 | 3.3K ohm | | |
| R161 | 6S44594P18 | 150K ohm | | |
| R162 | 6S44594P18 | 150K ohm | | |
| R163 | 6S44593P41 | 100 ohm | | |
| R164 | 6S44593P41 | 100 ohm | | |
| R165 | 6S44594P14 | 100K ohm | | |
| R166 | 6S44594P14 | 100K ohm | | |
| R167 | 6S44594P06 | 47K ohm | | |
| R168 | 6S44594P06 | 47K ohm | | |
| R169 | 6S44594P06 | 47K ohm | | |
| R170 | 6S44594P06 | 47K ohm | | |
| R171 | 6S44594P14 | 100K ohm | | |
| R172 | 6S44594P14 | 100K ohm | | |
| R173 | 6S44594P14 | 100K ohm | | |
| R174 | 6S44594P14 | 100K ohm | | |
| R175 | 6S44594P06 | 47K ohm | | |
| R176 | 6S44594P06 | 47K ohm | | |
| R177 | 6S44593P99 | 27K ohm | | |
| R178 | 6S44593P99 | 27K ohm | | |
| R179 | 6S44594P20 | 180K ohm | | |
| R180 | 6S44594P20 | 180K ohm | | |
| R183 | 6S44594P24 | 270K ohm | | |
| R184 | 6S44594P24 | 270K ohm | | |

| Symbol No. | Part No. | Description |
|------------|------------|---------------|
| R187 | 6S44593P77 | 3.3K ohm |
| R188 | 6S44593P77 | 3.3K ohm |
| R189 | 6S44594P06 | 47K ohm |
| R190 | 6S44594P06 | 47K ohm |
| R191 | 6S44593P47 | 180 ohm |
| R192 | 6S44593P47 | 180 ohm |
| R193 | 6S44594P38 | 1M ohm |
| R194 | 6S44594P38 | 1M ohm |
| R195 | 6S44593P95 | 18K ohm |
| R196 | 6S44593P95 | 18K ohm |
| R197 | 6S44593P88 | 9.1K ohm |
| R198 | 6S44593P88 | 9.1K ohm |
| R199 | 6S44593P89 | 10K ohm |
| R200 | 6S44593P89 | 10K ohm |
| R203 | 6S44594P10 | 68K ohm |
| R204 | 6S44504P10 | 68K ohm |
| R205 | 6D40801G63 | 1.0K ohm 1/2W |
| R206 | 6D40801G63 | 1.0K ohm 1/2W |
| R207 | 6S44594P28 | 390K ohm |
| R208 | 6S44594P28 | 390K ohm |
| R209 | 6S44593P41 | 100 ohm |
| R210 | 6S44593P41 | 100 ohm |
| R211 | 6D40801G55 | 470 ohm 1/2W |
| R212 | 6D40801G55 | 470 ohm 1/2W |
| R213 | 6S44593P65 | 1K ohm |
| R214 | 6S44593P65 | 1K ohm |
| R215 | 6S44593P65 | 1K ohm |
| R216 | 6S44594P65 | 1K ohm |
| R217 | 6S44594P06 | 47K ohm |
| R218 | 6S44594P06 | 47K ohm |
| R219 | 6S44593P65 | 1K ohm |
| R220 | 6S44593P65 | 1K ohm |
| R221 | 6S44593P65 | 1K ohm |
| R222 | 6S44593P65 | 1K ohm |
| R223 | 6S44593P53 | 330 ohm |
| R224 | 6S44593P53 | 330 ohm |
| R225 | 6S44593P53 | 330 ohm |
| R226 | 6S44593P53 | 330 ohm |
| R227 | 6S44593P53 | 330 ohm |
| R228 | 6S44593P53 | 330 ohm |
| R229 | 6S44593P89 | 10K ohm |
| R230 | 6S44593P89 | 10K ohm |
| R231 | 6S44593P35 | 56 ohm |
| R232 | 6S44593P35 | 56 ohm |
| R233 | 6S44593P65 | 1K ohm |
| R234 | 6S44593P65 | 1K ohm |
| R235 | 6S44594P46 | 2.2M ohm |
| R236 | 6S44594P46 | 2.2M ohm |
| R237 | 6S44593P75 | 2.7K ohm |
| R238 | 6S44593P75 | 2.7K ohm |
| R239 | 6S44593P89 | 10K ohm |
| R240 | 6S44593P89 | 10K ohm |
| R261 | 6S44593P98 | 24K ohm |

| Symbol No. | Part No. | Description |
|------------|------------|--------------|
| R262 | 6S44593P98 | 24K ohm |
| R263 | 6S44593P89 | 10K ohm |
| R264 | 6S44593P89 | 10K ohm |
| R265 | 6S44594P08 | 56K ohm |
| R266 | 6S44594P08 | 56K ohm |
| R267 | 6S44593P98 | 24K ohm |
| R268 | 6S44593P98 | 24K ohm |
| R269 | 6S44593P65 | 1K ohm |
| R270 | 6S44593P65 | 1K ohm |
| R271 | 6D40801G55 | 470 ohm 1/2W |
| R272 | 6S44593P65 | 1K ohm |
| R273 | 6S44594P22 | 220K ohm |
| R274 | 6S44594P22 | 220K ohm |
| R275 | 6S44594P22 | 220K ohm |
| R276 | 6S44594P22 | 220K ohm |
| R277 | 6S44593P89 | 10K ohm |
| R278 | 6S44503P89 | 10K ohm |
| R279 | 6S44593P89 | 10K ohm |
| R280 | 6S44594P14 | 100K ohm |
| R281 | 6S44593P93 | 15K ohm |
| R282 | 6S44593P93 | 15K ohm |
| R283 | 6S44593P93 | 15K ohm |
| R284 | 6S44593P93 | 15K ohm |
| R285 | 6S44593P89 | 10K ohm |
| R286 | 6S44593P89 | 10K ohm |
| R287 | 6S44594P06 | 47K ohm |
| R288 | 6S44594P06 | 47K ohm |
| R289 | 6S44593P81 | 4.7K ohm |
| R290 | 6S44593P81 | 4.7K ohm |
| R291 | 6S44593P51 | 270 ohm |
| R292 | 6S44593P51 | 270 ohm |
| R293 | 6S44594P06 | 47K ohm |
| R294 | 6S44594P06 | 47K ohm |
| R295 | 6S44593P77 | 3.3K ohm |
| R296 | 6S44593P77 | 3.3K ohm |
| R297 | 6S44593P48 | 200 ohm |
| R298 | 6S44593P48 | 200 ohm |
| R299 | 6S44593P89 | 10K ohm |
| R300 | 6S44593P89 | 10K ohm |
| R301 | 6S44593P93 | 15K ohm |
| R302 | 6S44593P93 | 15K ohm |
| R303 | 6S44593P41 | 100 ohm |
| R304 | 6S44593P41 | 100 ohm |
| R305 | 6S44593P81 | 4.7K ohm |
| R306 | 6S44593P81 | 4.7K ohm |
| R307 | 6S44593P91 | 12K ohm |
| R308 | 6S44593P91 | 12K ohm |
| R309 | 6S44593P53 | 330 ohm |
| R310 | 6S44593P53 | 330 ohm |
| R312 | 6S44593P77 | 3.3K ohm |
| R313 | 6S44593P89 | 10K ohm |
| R314 | 6S44594P06 | 47K ohm |
| R315 | 6S44593P97 | 22K ohm |

| Symbol No. | Part No. | Description |
|------------|-------------|----------------------|
| R316 | 6S44593P89 | 10K ohm |
| R317 | 6S44593P81 | 4.7K ohm |
| R318 | 6S44593P89 | 10K ohm |
| R319 | 6S44593P81 | 4.7K ohm |
| R320 | 6S44593P65 | 1K ohm |
| R321 | 6D40801G59 | 680 ohm ½W |
| R322 | 6D40801G55 | 470 ohm ½W |
| R323 | 6D40801G51 | 330 ohm ½W |
| R324 | 6C44652G08 | Metal 68 ohm 2W |
| R325 | 6S44593P99 | 27K ohm |
| R326 | 6S44593P99 | 27K ohm |
| R327 | 6D40801G27 | 33 ohm ½W |
| R328 | 6S44593P65 | 1K ohm |
| R329 | 6S44593P41 | 100 ohm |
| R330 | 6S44593P41 | 100 ohm |
| R331 | 6D40801G51 | 330 ohm ½W |
| R333 | 6S44593P89 | 10K ohm |
| R334 | 6S44593P89 | 10K ohm |
| R360 | 6S41801P52 | 47K ohm |
| R362 | 6S44594P50 | 3.3M ohm |
| R363 | 6S44594P46 | 2.2M ohm |
| R364 | 6S44594P46 | 2.2M ohm |
| VR101 | 18C42061J15 | Variable 50K ohm |
| VR102 | 18C42061J15 | Variable 50K ohm |
| VR103 | 18C42061J15 | Variable 50K ohm |
| VR104 | 18C42061J15 | Variable 50K ohm |
| VR105 | 18T43406P01 | Variable 220K ohm ½W |
| VR106 | 18T43406P01 | Variable 220K ohm ½W |

Fluorescent Meter P.C. Board

| ICs & Diodes | | |
|--------------|-------------------------------|--------------------------------|
| IC103 | 51T44525U01 | IC BA658A |
| IC104 | 51T44525U01 | IC BA658A |
| ZD101 | 48T40059U01 or 48T40059U02 | Zener HZ6A-1L Zener HZ6A-2L |
| ZD102 | 48T40059U01 or 48T40059U02 | Zener HZ6A-1L Zener HZ6A-2L |
| D105 | 48B41768G01 | Diode 1N60 |
| D106 | 48B41768G01 | Diode 1N60 |
| D107 | 48B41668G01 | Diode 1N60 |
| D108 | 48B41768G01 | Diode 1N60 |
| E7 | 65T444064U01 | F.L. Meter |

| Symbol No. | Part No. | Description | |
|--|-------------|--------------------|-----------------|
| Transistors | | | |
| Q133 | 48S40149P01 | Transistor 2SC900E | |
| Q134 | 48S40149P01 | Transistor 2SC900E | |
| Capacitors | | | |
| C183 | 23D44333G05 | Electrolytic | 4.7 μ F 25V |
| C184 | 23D44333G05 | Electrolytic | 4.7 μ F 25V |
| C185 | 23D44333G01 | Electrolytic | 1 μ F 50V |
| C186 | 23D44333G01 | Electrolytic | 1 μ F 50V |
| C187 | 23D44333G08 | Electrolytic | 10 μ F 16V |
| C188 | 23D44333G08 | Electrolytic | 10 μ F 16V |
| C189 | 23D44333G02 | Electrolytic | 3.3 μ F 25V |
| C190 | 23D44333G02 | Electrolytic | 3.3 μ F 25V |
| C191 | 23D44333G13 | Electrolytic | 22 μ F 16V |
| C192 | 23D44333G13 | Electrolytic | 22 μ F 16V |
| C231 | 23S41198U57 | Electrolytic | 470 μ F 25V |
| Resistors (All resistors are Carbon Film ½W, $\pm 5\%$ unless otherwise noted) | | | |
| R241 | 6S40150T95 | 18K ohm | |
| R242 | 6S40150T95 | 18K ohm | |
| R243 | 6S40150T65 | 1K ohm | |
| R244 | 6S40150T65 | 1K ohm | |
| R245 | 6S40150T93 | 15K ohm | |
| R246 | 6S40150T93 | 15K ohm | |
| R247 | 6S40151T14 | 100K ohm | |
| R248 | 6S40151T14 | 100K ohm | |
| R249 | 6S40151T18 | 150K ohm | |
| R250 | 6S40151T18 | 150K ohm | |
| R251 | 6S40150T29 | 33 ohm | |
| R252 | 6S40150T29 | 33 ohm | |
| R253 | 6S40151T12 | 82K ohm | |
| R254 | 6S40151T12 | 82K ohm | |
| R255 | 6S40150T29 | 33 ohm | |
| R256 | 6S40150T29 | 33 ohm | |
| R257 | 6S40150T65 | 1K ohm | |
| R258 | 6S40150T65 | 1K ohm | |
| R259 | 6S40150T36 | 62 ohm | |
| R260 | 6S40150T36 | 62 ohm | |
| R335 | 6S40151T14 | 100K ohm | |
| R336 | 6S40151T14 | 100K ohm | |
| R337 | 6C44652G10 | Metal 220 ohm 1W | |
| V101 | 48S44107J01 | Varistor | |
| V102 | 48S44107J01 | Varistor | |
| VR107 | 18C41732G06 | Variable 10K ohm | |
| VR108 | 18C41732G06 | Variable 10K ohm | |

| Symbol No. | Part No. | Description |
|---------------------------|-------------------------|------------------|
| VR109 | 18C41732G06 | Variable 10K ohm |
| VR110 | 18C41732G06 | Variable 10K ohm |
| Control P.C. Board | | |
| IC & Diodes | | |
| IC401 | 51T40471U01 | TC-9121P |
| D402 | 48S134816 | Silicon 1S1555 |
| D405 | 48S134816 | Silicon 1S1555 |
| D406 | 48S134816 | Silicon 1S1555 |
| D408 | 48S134816 | Silicon 1S1555 |
| D409 | 48S134816 | Silicon 1S1555 |
| D410 | 48S134816 | Silicon 1S1555 |
| D411 | 48S134816 | Silicon 1S1555 |
| D412 | 48S134816 | Silicon 1S1555 |
| D415 | 48S134816 | Silicon 1S1555 |
| D416 | 48S134816 | Silicon 1S1555 |
| D417 | 48S134816 | Silicon 1S1555 |
| D419 | 48S134816 | Silicon 1S1555 |
| D420 | 48S134816 | Silicon 1S1555 |
| D421 | 48S134816 | Silicon 1S1555 |
| D422 | 48S134816 | Silicon 1S1555 |
| D424 | 48S134816 | Silicon 1S1555 |
| D425 | 48S134816 | Silicon 1S1555 |
| D426 | 48S134816 | Silicon 1S1555 |
| D427 | 48S134816 | Silicon 1S1555 |
| Transistors | | |
| Q401 | 48S40149P01 | 2SC900E |
| Q409 | 48S40149P01 | 2SC900E |
| Q410 | 48S40149P01 | 2SC900E |
| Q411 | 48T40832F04 | 2SC1318NC-S |
| Q412 | 48T40832F04 | 2SC1318NC-S |
| Q413 | 48S40149P01 | 2SC900E |
| Q414 | 48S40149P01 | 2SC900E |
| Q415 | 48T40081T03 | 2SA733BL |
| Q416 | 48S40149P01 | 2SC900E |
| Q417 | 48T40081T03 | 2SA733BL |
| Q418 | 48S40149P01 | 2SC900E |
| Q419 | 48S40149P01 | 2SC900E |
| Q420 | 48S40149P01 | 2SC900E |
| Q421 | 48S40149P01 | 2SC900E |
| Q422 | 48S40149P01 | 2SC900E |
| | 2SC900E used as same as | |
| | 48T42943U01 | 2SC1684 |
| Q428 | 48S40149P01 | 2SC900E |

| Symbol No. | Part No. | Description |
|--|-------------|------------------------------|
| Capacitors | | |
| C411 | 23D44333G01 | Electrolytic 1 μ F 50V |
| C413 | 23T40654F27 | Tantalum |
| C414 | 23C42909J02 | Electrolytic 0.47 μ F |
| C417 | 8S40656F13 | Mylar 0.010 μ F |
| C418 | 23S41059P07 | Tantalum 1 μ F 35V |
| C421 | 8S40656F13 | Mylar 0.01 μ F |
| C422 | 8S40656F13 | Mylar 0.01 μ F |
| C423 | 8S40656F13 | Mylar 0.01 μ F |
| C424 | 8S40656F13 | Mylar 0.01 μ F |
| C425 | 23C42909J02 | Electrolytic 0.47 μ F |
| C426 | 8S40656F13 | Mylar 0.01 μ F |
| C428 | 23D44333G05 | Electrolytic 4.7 μ F 25V |
| C429 | 23S40657F10 | Electrolytic 10 μ F 16V |
| C430 | 23S41198U34 | Electrolytic 100 μ F 16V |
| Resistors (All resistors are Carbon Film 1/4W, $\pm 5\%$ unless otherwise noted) | | |
| R403 | 6S44593P65 | 1K ohm |
| R404 | 6S44593P89 | 10K ohm |
| R405 | 6S44593P89 | 10K ohm |
| R406 | 6S44593P33 | 47 ohm |
| R407 | 6S44593P89 | 10K ohm |
| R417 | 6S44593P89 | 10K ohm |
| R418 | 6S44594P22 | 220K ohm |
| R419 | 6S44593P65 | 1K ohm |
| R420 | 6S44593P65 | 1K ohm |
| R421 | 6S44593P72 | 2K ohm |
| R422 | 6S44593P65 | 1K ohm |
| R426 | 6S44594P14 | 100K ohm |
| R427 | 6S44593P79 | 3.9K ohm |
| R428 | 6S44593P79 | 3.9K ohm |
| R429 | 6S44593P79 | 3.9K ohm |
| R430 | 6S44593P79 | 3.9K ohm |
| R431 | 6S44593P89 | 10K ohm |
| R432 | 6S44593P89 | 10K ohm |
| R433 | 6S44593P97 | 22K ohm |
| R434 | 6S44593P89 | 10K ohm |
| R435 | 6S44594P14 | 100K ohm |
| R436 | 6S44593P89 | 10K ohm |
| R437 | 6S44593P89 | 10K ohm |
| R438 | 6S44593P89 | 10K ohm |
| R442 | 6S44594P02 | 33K ohm |
| R443 | 6S44594P06 | 47K ohm |
| R444 | 6S44594P06 | 47K ohm |
| R445 | 6S44594P06 | 47K ohm |
| R446 | 6S44594P06 | 47K ohm |
| R448 | 6S44594P14 | 100K ohm |
| R452 | 6S44593P89 | 10K ohm |
| R453 | 6S44593P97 | 22K ohm |

| Symbol No. | Part No. | Description |
|------------|------------|-------------|
| R454 | 6S44593P97 | 22K ohm |
| R460 | 6S44593P89 | 10K ohm |
| R461 | 6S44593P89 | 10K ohm |
| R465 | 6S44593P76 | 3K ohm |
| R466 | 6S44594P06 | 47K ohm |
| R467 | 6S44593P89 | 10K ohm |
| R468 | 6S44594P06 | 47K ohm |
| R469 | 6S44693P89 | 10K ohm |
| R470 | 6S44593P89 | 10K ohm |
| R471 | 6S44593P89 | 10K ohm |
| R472 | 6S44594P08 | 56K ohm |
| R473 | 6S44593P97 | 22K ohm |
| R474 | 6S44593P89 | 10K ohm |
| R475 | 6S44593P91 | 12K ohm |
| R476 | 6S44593P97 | 22K ohm |
| R484 | 6S41801P43 | 8.2K ohm |
| R485 | 6S41801P36 | 2.2K ohm |

Power P.C. Board

| Diodes | | |
|--------|-------------------------------|--------------------------------|
| D401 | 48S134816 | Silicon 1S1555 |
| D404 | 48S134816 | Silicon 1S1555 |
| D407 | 48S134816 | Silicon 1S1555 |
| D418 | 48S134816 | Silicon 1S1555 |
| D428 | 48S134816 | Silicon 1S1555 |
| D429 | 48S134816 | Silicon 1S1555 |
| D501 | 48C40235G02 | 10E2 |
| D502 | 48C40235G02 | 10E2 |
| D503 | 48C40235G02 | 10E2 |
| D504 | 48C40235G02 | 10E2 |
| D505 | 48C40235G02 | 10E2 |
| D506 | 48C40235G02 | 10E2 |
| D507 | 48C40235G02 | 10E2 |
| D508 | 48C40235G02 | 10E2 |
| D509 | 48C40235G02 | 10E2 |
| D510 | 48C40235G02 | 10E2 |
| D511 | 48C40235G02 | 10E2 |
| D512 | 48C40235G02 | 10E2 |
| ZD401 | 48T40150U85 or 48T40150U86 | Zener HZ24-1 Zener HZ24-2 |
| ZD402 | 48T40150U61 or 48T40150U62 | Zener HZ12A-1 Zener HZ12A-2 |

| Symbol No. | Part No. | Description |
|---|-------------|-------------------------------|
| Transistors | | |
| Q403 | 48S40662G05 | 2SD235Y |
| Q404 | 48S40149P01 | 2SC900E |
| Q405 | 48S40662G05 | 2SD235Y |
| Q406 | 48S40662G05 | 2SD235Y |
| Q407 | 48T40081T03 | 2SA733BL |
| Q408 | 48S40149P01 | 2SC900E |
| Q423 | 48S40149P01 | 2SC900E |
| Q424 | 48T40469U01 | 2SC1983 |
| Q425 | 48T40081T03 | 2SA733BL |
| Q426 | 48S40149P01 | 2SC900E |
| Q427 | 48S40149P01 | 2SC900E |
| Capacitors | | |
| C401 | 23S40657F16 | Electrolytic 4.7 μ F 25V |
| C402 | 23S40657F14 | Electrolytic 100 μ F 16V |
| C403 | 23S41198U67 | Electrolytic 1000 μ F 50V |
| C404 | 23S41198U72 | Electrolytic 2200 μ F 25V |
| C405 | 23S41198U42 | Electrolytic 220 μ F 25V |
| C406 | 23S40657F14 | Electrolytic 100 μ F 16V |
| C407 | 23S41198U71 | Electrolytic 2200 μ F 16V |
| C408 | 23S40657F14 | Electrolytic 100 μ F 16V |
| C409 | 23S40657F14 | Electrolytic 100 μ F 16V |
| C410 | 23D44333G05 | Electrolytic 4.7 μ F 25V |
| C412 | 23S40654F16 | Tantalum 2.2 μ F 16V |
| C419 | 23S41198U57 | Electrolytic 470 μ F 25V |
| C420 | 23S40657F17 | Electrolytic 10 μ F 25V |
| C427 | 23S41198U79 | Electrolytic 4700 μ F 10V |
| C431 | 23S40657F17 | Electrolytic 10 μ F 25V |
| Resistors (All resistors are carbon film 1/4W $\pm 5\%$ unless otherwise noted) | | |
| R401 | 6S44593P73 | 2.2K ohm |
| R402 | 6C42305J25 | Metal 470 ohm 1/2W |
| R408 | 6S44594P02 | 33K ohm |
| R409 | 6S44593P85 | 6.8K ohm |
| R410 | 6D40801G53 | 390 ohm 1/2W |
| R412 | 6S44594P02 | 33K ohm |
| R413 | 6S44594P06 | 47K ohm |
| R414 | 6S44593P98 | 24K ohm |
| R415 | 6S44594P14 | 100K ohm |
| R416 | 6S44593P97 | 22K ohm |
| R423 | 6S44594P02 | 33K ohm |
| R424 | 6S44594P08 | 56K ohm |
| R425 | 6S44593P99 | 27K ohm |
| R450 | 6S44594P14 | 100K ohm |
| R456 | 6S44593P43 | 120 ohm |
| R457 | 6S44593P97 | 22K ohm |
| R458 | 6S44594P08 | 56K ohm |
| R459 | 6S44594P14 | 100K ohm |
| R477 | 6S44594P14 | 100K ohm |

| Symbol No. | Part No. | Description |
|------------|------------|------------------|
| R478 | 6S44593P89 | 10K ohm |
| R479 | 6S44594P02 | 33K ohm |
| R480 | 6S44594P06 | 47K ohm |
| R483 | 6C44652G10 | Metal 220 ohm 1W |

Miscellaneous Parts

| | | |
|-------|-------------|--|
| C432 | 8C42962P07 | Capacitor Metal ECQ-UC 0.01 μ F |
| D513 | 48C40235G01 | Diode 10E1 |
| D514 | 48C40235G01 | Diode 10E1 |
| E1 | 9B44393P01 | Plate, Phone (W/No, 18) |
| E2 | 9T40027F01 | Jack, HD Phone |
| E3 | 9T42988F01 | Jack, Mic 2C-2P |
| E4 | 9T42988F01 | Jack, Mic 2C-2P |
| E5 | 88T40191F01 | Head, Record/Playback |
| E6 | 88T40192F01 | Head, Erase |
| E401 | 9T42751F01 | Din Jack 8P |
| LD101 | 48T41787F01 | LED (Grn) |
| LD401 | 48T41563F01 | LED (Grn) 5x2 |
| LD402 | 48T41563F01 | LED (Grn) 5x2 |
| LD403 | 48T41562F01 | LED (Red) 5x2 |
| LD404 | 48T41787F01 | LED (Grn) 5x2 |
| LD405 | 48T41632F01 | LED (Grn) 5x2 |
| LD406 | 48T41787F01 | LED (Grn) 5x2 |
| L401 | 65C42544U02 | Lamp, Pilot |
| M401 | 59T40783T01 | Motor |
| FL401 | 65T41785F01 | Lamp FL Counter Assembly |
| P401 | 28T40916U01 | Plug AC Cord |
| R103 | 6S44593P89 | Res. Carbon Film 10K ohm |
| R104 | 6S44593P89 | Res. Carbon Film 10K ohm |
| R462 | 6S44593P73 | Res. Carbon Film 2.2K ohm |
| R463 | 6S44593P63 | Res. Carbon Film 820 ohm |
| R481 | 6S44593P65 | Resistor, Carbon Film 1Kohm |
| R482 | 6S44593P65 | Resistor, Carbon Film 1Kohm |
| VR1 | 18T44716P01 | Resistor, Variable |
| VR2 | 18T44715P01 | Resistor, Variable |

| Symbol No. | Part No. | Description |
|------------|-------------|--------------------------|
| S406 | 40C40349J02 | Switch, Micro |
| S411 | 40C40349J02 | Switch, Micro |
| S104 | 40T41784F01 | Switch, Push Sut 4C-2PNS |
| S401 | 40T41786F01 | Switch, Slide SSB023 |
| S402 | 40T42904U01 | Switch, AKC8S |
| S403 | 40T42904U01 | Switch, AKC8S |
| S404 | 40T42904U01 | Switch, AKC8S |
| S405 | 40T42904U01 | Switch, AKC8S |
| S407 | 40T42904U01 | Switch, AKC8S |
| S408 | 40T42904U01 | Switch, AKC8S |
| S409 | 40T41788F01 | Switch, Push SuF60 |
| S410 | 40T41788F01 | Switch, Push SuF60 |
| S413 | 40T41788F01 | Switch, Push SuF60 |
| S414 | 40T41788F01 | Switch, Push SuF60 |
| S415 | 40T41788F01 | Switch, Push SuF60 |
| S416 | 40T41788F01 | Switch, Push SuF60 |
| S417 | 40T44111U01 | Switch, Power |
| SL401 | 80T42892F01 | Solenoid |
| SL402 | 80T42892F01 | Solenoid |
| T401 | 25T41666F01 | Transformer Power |
| Q425 | 48T41633F01 | Transistor, Photo |

General Assembly Parts

| | | |
|----|-------------|------------------------------|
| 1 | 27C41765F01 | Chassis, Bottom |
| 2 | 15D41766F01 | Cover, Rear |
| 3 | 43B41625J01 | Stopper, Cord |
| 4 | 7C41749F01 | Frame, Meter |
| 5 | 3S44205G05 | Screw, Tapping (M3x5) |
| 6 | 7B41762F01 | Bracket, Slide Switch |
| 7 | 3C40014G12 | Screw, Machine (M2.6x4) |
| 8 | 84D41791F05 | Panel, Timer Switch |
| 9 | 7B41763F01 | Bracket, Switch & Volume |
| 10 | 7B41757F01 | Bracket, Control Panel |
| 11 | 7B41761F01 | Bracket, Microphone Jack |
| 12 | 3B41643J01 | Screw, Machine (M3x10.5) |
| 13 | 84D41790F03 | Panel, |
| | | Microphone/Headphone |
| 14 | 7A42249U02 | Bracket, Shield |
| 15 | 7C41760F01 | Bracket, Side (R) |
| 16 | 7A43087F01 | Bracket, Transformer |
| 17 | 3S44205G17 | Screw, Tape Tite (M4x6, Blk) |
| 18 | 1V41600F33 | Assembly, Master Board |
| 19 | 3C42723U01 | Screw, Cap (M3x6) |
| 20 | 1V41600F34 | Assembly, Fluorescent Meter |
| 21 | 7A40210F01 | Bracket, Panel (A) |
| 22 | 7A40211F01 | Bracket, Panel (B) |
| 23 | 3S40018G01 | Screw, Tapping (M3x6) |
| 24 | 3S40012G03 | Screw, Tapping (M3x6) |

| Symbol No. | Part No. | Description |
|------------|-------------|----------------------------------|
| 25 | 91A41642F01 | Filter, Acryl |
| 26 | 3S44205G16 | Screw, Tap Tite (M3x6) |
| 27 | 1V41600F35 | Assembly, Control Panel |
| 28 | 1V41600F36 | Assembly, Power Panel (W/No, 27) |
| 29 | 7A43683U01 | Bracket, Heat Sink |
| 30 | 3S40019G31 | Screw, F-Lock (M3x5) |
| 31 | 43A43182P01 | Spacer, Transistor |
| 32 | 14A40472G02 | Insulator, Transistor |
| 33 | 3A43146G01 | Screw, Machine (M2x6) |
| 34 | 3S40019G23 | Screw, F-Lock (M2.5x6) |
| 35 | 84D41791F03 | Panel, Six Keys |
| 36 | 7C41747F01 | Frame, Counter |
| 37 | 3S40012G09 | Screw, Tapping (M3x8) |
| 38 | 91A41642F03 | Filter, Acryl |
| 39 | 84D41791F04 | Panel, LED |
| 40 | 3S40011G53 | Screw, Machine (M3x28) |
| 41 | 7A40962U01 | Bracket, Power Switch |
| 42 | 3C40014G04 | Screw, Machine (M3x6) |
| 43 | 84D41790F02 | Panel, Power Switch |
| 44 | 45A44249U01 | Lever, Switch |
| 45 | 26A44163F01 | Shield, Magnet Inside |
| 46 | 26A42779F01 | Shield, Magnet |
| 47 | 7A40871F01 | Support, Transformer |
| 48 | 3S44205G09 | Screw, Tap Tite (M4x8) |
| 49 | 7A41758F01 | Bracket, Deck |
| 50 | 3S40011G17 | Screw, Machine (M3x0.5x6) |
| 51 | 5B41635J02 | Rivet, Push |
| 52 | 43A41006F02 | Spacer, Polyslider |
| 53 | 84B41889F01 | Panel, Key Board |
| 54 | 4S40072G16 | Washer, T.L. (M3) |
| 55 | 3S40011G91 | Screw, Machine (M2.6x5) |
| 56 | 64D41755F01 | Panel, Front |
| 57 | 7C41748F01 | Frame, Control |
| 58 | 36A41752F01 | Knob, Cassette Control |
| 59 | 36B41754F01 | Knob, Stop |
| 60 | 47A41779F01 | Shaft, Stop |
| 61 | 41A44247F01 | Spring, Push Switch |
| 62 | 7B41750F01 | Frame, Knob |
| 63 | 14A41646G01 | Cover, Dust |
| 64 | 61B41769F01 | Meter, Crystal |
| 65 | 3S40012G55 | Screw, Tapping (M3x8, Flat) |
| 66 | 36A41751F01 | Knob, Lever |
| 67 | 36A41753F01 | Knob, Push Switch |
| 68 | 36B41772F01 | Knob, Eject |
| 69 | 36A42464U01 | Knob, Slide, Switch |
| 70 | 36A43278U02 | Knob, Push |
| 71 | 64B41756F01 | Panel, Door |
| 72 | 46A41771F01 | Stud, Door |
| 73 | 61A41770F01 | Crystal, Door |
| 74 | 3A42493U01 | Screw, Special (M4x13.5) |
| 75 | 4A41014U01 | Washer, Rubber |
| 76 | 36B41776F01 | Knob, Control (L) |

| Symbol No. | Part No. | Description |
|------------|-------------|--------------------------|
| 77 | 36B41777F01 | Knob, Control (R) |
| 78 | 36B41778F01 | Knob, Control |
| 79 | 15C41759F01 | Cover, Bottom |
| 80 | 75A42510U01 | Pad, Rubber |
| 81 | 15D41764F01 | Cover, Top |
| 82 | 3S40036U12 | Screw, Tap Tite (M4x6) |
| 83 | 15A42952U02 | Cover, Switch |
| 84 | 75A44632G04 | Pad, Cushin |
| 85 | 7B44494P01 | Shield, OSC (W/No, 18) |
| 86 | 81D42579F01 | Cassette Deck (FM87E010) |
| 87 | 84B41889F02 | Panel, LED |

Tape Mechanism Parts Assembly

| | | |
|-----|-------------|---------------------------|
| 201 | 41T42885F01 | Spring, Sub Chassis |
| 202 | 1T42791F01 | Assembly, Rivet Head Base |
| 203 | 41T42852F01 | Spring, Head Base |
| 204 | 41T42861F01 | Spring, Azimuth |
| 205 | 29T42902F01 | Lug, Cord Clamp |
| 206 | 41T42905F01 | Spring, Head Pull (B) |
| 207 | 41T42906F01 | Spring, Eject Arm |
| 208 | 1T42795F01 | Assembly, Solenoid Lever |
| 209 | 45T42803F01 | Arm, Solenoid |
| 210 | 1T42794F01 | Assembly, Shift Lever |
| 211 | 45T42836F01 | Arm, Head Chassis Lock |
| 212 | 41T42856F01 | Spring, Shift Lever |
| 213 | 41T42855F01 | Spring, Stopper Arm |
| 214 | 41T42896F01 | Spring, Record Lever |
| 215 | 1T42796F01 | Assembly, Sub Chassis |
| 216 | 4T42908F01 | Washer, Back Tension |
| 217 | 41T42859F01 | Spring, Back Tension |
| 218 | 1T42824F01 | Assembly, Supply Reel |
| 219 | 1T42825F01 | Assembly, Take-up Reel |
| 220 | 64T42903F01 | Plate, Reflector |
| 221 | 45T42812F01 | Arm, F.F./Rew Lock |
| 222 | 1T42829F01 | Assembly, F.F. Arm |
| 223 | 1T42828F01 | Assembly, Rew. Arm |
| 224 | 41T42904F01 | Spring, Idler |
| 225 | 1T42826F01 | Assembly, Pulley Arm |
| 226 | 41T42894F01 | Spring, Push Lever |
| 227 | 1T42827F01 | Assembly, FF Idler Plate |
| 228 | 49T42834F01 | Idler, Center |
| 229 | 41T42855F01 | Spring, Stopper Arm |
| 230 | 45T42804F01 | Lever, Brake |
| 231 | 75T42864F01 | Pad, Brake |
| 232 | 41T42895F01 | Spring, Lever |
| 233 | 7T42893F01 | Bracket, Micro Switch |
| 234 | 7A40675F01 | Bracket, Poise |
| 235 | 41T42890F01 | Spring, Solenoid |
| 236 | 84A42689F01 | Panel, Sensor |
| 237 | 15A41630F01 | Cover, Sensor |
| 238 | 7T42815F01 | Bracket, Photo Sensor |

| Symbol No. | Part No. | Description |
|------------|-------------|----------------------------|
| 239 | 47T42891F01 | Plunger, Solenoid |
| 240 | 22T42845F01 | Pin, Solenoid |
| 241 | 45T42805F01 | Link, Plunger |
| 242 | 7T42806F01 | Bracket, Motor |
| 243 | 49T42846F01 | Pulley, Motor |
| 244 | 75T42888F01 | Cushion, Motor |
| 245 | 42T42889F01 | Ring, Motor |
| 246 | 7T42814F01 | Bracket, Deck Panel |
| 247 | 1T42830F01 | Assembly, Flywheel Bracket |
| 248 | 3T42887F01 | Screw, Bearing |
| 249 | 84B42688F01 | Panel, Deck |
| 250 | 1T42790F01 | Assembly, Chassis |
| 251 | 15T42865F01 | Housing, Capstan |
| 252 | 45T42837F01 | Arm, Shift |
| 253 | 45T42879F01 | Arm, Stopper |
| 254 | 45T42802F01 | Arm, Play |
| 255 | 1T42793F01 | Assembly, Play Idler Lever |
| 256 | 41T42881F01 | Spring, Cam |
| 257 | 15T42842F01 | Holder, Ball |
| 258 | 43T42882F01 | Bush, Rubber |
| 259 | 1T42820F01 | Assembly, Cassette Arm (L) |
| 260 | 1T42823F01 | Assembly, Cassette Arm (R) |
| 261 | 45T42835F01 | Arm, Play Idler |
| 262 | 41T42883F01 | Spring, Ball |
| 263 | 1T42792F01 | Assembly, Pinch Roller |
| 264 | 41T42853F01 | Spring, Pinch Roller |
| 265 | 47T42847F01 | Rod, Motor |
| 266 | 44T42843F01 | Gear, Shift |
| 267 | 41T42801F01 | Spring, Reset |
| 268 | 49T42866F01 | Flywheel |
| 269 | 42T42862F01 | Belt, Main |
| 270 | 42T42863F01 | Belt, Sub |
| 271 | 3S44205G08 | Screw, Tapping (M3x12) |
| 272 | 45T42884F01 | Arm, Record Safety |
| 273 | 47T42844F01 | Shaft, Record Arm |
| 274 | 4C42091G11 | Washer, "C" |
| 275 | 43A44303P01 | Washer, Oil Seal |
| 276 | 3C40014G07 | Screw, Machine (M2x4) |
| 277 | 3S40019G06 | Screw, F-Lock (M2x6) |
| 278 | 4C242091G05 | Washer "C" |
| 279 | 15T42839F01 | Holder, Cassette (L) |
| 280 | 4A41345P02 | Washer |
| 281 | 4C42091G06 | Washer, "C" |
| 282 | 4C42091G04 | Washer, "C" |
| 283 | 4S40075G12 | Washer |
| 284 | 4A41345P03 | Washer, Lock |
| 285 | 3C40014G02 | Screw, Machine (M2x6) |
| 286 | 3S40019G17 | Screw, F-Lock (M2.3x10) |
| 287 | 3S40019G29 | Screw, F-Lock (M3x4) |
| 288 | 3C40121T06 | Screw, Machine (M2.6x8) |
| 289 | 15T42840F01 | Holder, Cassette (R) |
| 290 | 3S44205G12 | Screw, Tap Tite (M3x4) |
| 291 | 3S44205G03 | Screw, Tap Tite (M3x8) |
| 292 | 4C42091G03 | Washer, "C" |

| Symbol No. | Part No. | Description |
|------------|--------------|-------------------------------|
| 293 | 3S44205G01 | Screw, Tapping (M3x6) |
| 294 | 3C40014G19 | Screw, Machine (M2.6x5) |
| 295 | 3S40011G88 | Screw, Machine (M3x5) |
| 296 | 4S40075G09 | Washer (STW) |
| 297 | 3S40036U03 | Screw, Tap Tite (M3x6) |
| 298 | 1T42797F01 | Assembly, Solenoid Bracket |
| 299 | 1T42798F01 | Assembly, Dumper Link |
| 300 | 44B40208T01 | Gear, Drive |
| 301 | 44B40207T01 | Gear, Drive |
| 302 | 4A41345P01 | Washer, Lock |
| 303 | 30S43803G05 | Cord, Dial |
| 304 | 41T42854F01 | Spring, Hook |
| 305 | 5A44852G08 | Eyelet |
| 306 | 41T42857F01 | Spring, Dumper |
| 307 | 1T42799F01 | Assembly, Cassette Bracket(L) |
| 308 | 45T42809F01 | Lever, Eject |
| 309 | 64T42811F01 | Plate, Cassette Lock |
| 310 | 45T42838F01 | Arm, Eject |
| 311 | 47T42849F01 | Shaft, Eject Arm |
| 312 | 1T42822F01 | Assembly, Cassette Bracket(R) |
| 313 | 15T42818F01 | Case (B), Cassette |
| 314 | — Not Used — | — Not Used — |
| 315 | — Not Used — | — Not Used — |
| 316 | 41T42808F01 | Spring, Cassette Case (A) |
| 317 | 3S40011G65 | Screw, Machine (M3x4) |
| 318 | 43T42850F01 | Collar, Door |
| 319 | 3S44205G34 | Screw, Tat Tite (M2.6x5) |
| 320 | 41T42807F01 | Spring, Cassette Case (B) |
| 321 | — Not Used — | — Not Used — |
| 322 | 1T42821F01 | Assembly, Tray |
| 323 | 61T42841F01 | Lens, Lamp |
| 324 | 7T42833F01 | Guide, Cassette |
| 325 | 3S44205G29 | Screw, Tap Tite (M2.6x6) |
| 326 | 45T42810F01 | Arm, Eject Safety |
| 327 | 43T42851F01 | Collar, Arm |
| 328 | — Not Used — | — Not Used — |
| 329 | 43A41182P01 | Ball, Steel (2) |
| 330 | 47T42848F01 | Rod, Panel (A) |
| 331 | 3S44205G05 | Screw, Tap Tite (M3x5) |
| 332 | 41T42860F01 | Spring, Clamp |
| 333 | 15B42591F01 | Cover, Head Base |
| 334 | 43A41289U02 | Sleeve, Cushion |
| 335 | 30B44668J12 | Shield, Cord Wire (Brn) |
| 336 | 30B44668J13 | Shield, Cord Wire (Gry) |
| 337 | 30T43888U08 | Shield, Cord Wire (Blk) |
| 338 | 75A44238P01 | Pad, Brake |

| Symbol No. | Part No. | Description |
|-------------------------------|-------------|----------------------|
| Packing Assembly Parts | | |
| 101 | 1V41600F23 | Assembly, Pamphlet |
| 101-1 | 56B40230G14 | Sack, Polyethylene |
| 101-2 | 75A44469P01 | Head Cleaning Tip |
| 101-3 | 68P40880F23 | Owner's Manual |
| 101-4 | 1V44200J30 | Assembly, Kit |
| 101-4-1 | 28C42374J02 | Cord, Output |
| 101-4-2 | 56B40230G16 | Sack, Polyethylene |
| 102 | 56B40442T03 | Packing, Front Frame |
| 103 | 56C41774F01 | Tray, Packing |
| 104 | 56C44246U46 | Carton, Packing |
| 105 | 56D41118J23 | Pad, Packing |
| 106 | 56A43694F01 | Tray, Packing |

Parts List (For European Model)

This list shows different or additional parts only from/to the U.S.A./Canadian model.

| Symbol No. | Part No. | Description |
|---|-------------------------------|--|
| Master P.C. Board | | |
| Transistors & Diodes | | |
| Q141 | 48T42538U01 | FET, 2SK127 |
| Q142 | 48T42538U01 | FET, 2SK127 |
| Q143 | 48S40149P01 or 48S40246G01 | Transistor, 2SC900E Transistor, 2SC732 (BL) |
| Q144 | 48S40149P01 or 48S40246G01 | Transistor, 2SC900E Transistor, 2SC732 (BL) |
| Q145 | 48T40081T03 | Transistor, 2SA733 |
| Q146 | 48T40081T03 | Transistor, 2SA733 |
| D109 | 48S134816 | Diode, Silicon 1S1555 |
| D110 | 48S134816 | Diode, Silicon 1S1555 |
| Capacitors | | |
| C241 | 23S40657F28 | Electrolytic, 1 μ F 50V |
| C242 | 23S40657F14 | Electrolytic, 100 μ F 16V |
| Resistors (All resistors are carbon film, 1/4W, $\pm 5\%$ unless otherwise noted) | | |
| R338 | 6S44594P14 | 100K ohm |
| R339 | 6S44593P89 | 10K ohm |
| R340 | 6S44593P89 | 10K ohm |
| R341 | 6S44593P89 | 10K ohm |
| R342 | 6S44593P89 | 10K ohm |
| R343 | 6S44593P89 | 10K ohm |
| R344 | 6S44593P89 | 10K ohm |
| R345 | 6S44594P14 | 100K ohm |
| R346 | 6S44594P14 | 100K ohm |
| R347 | 6S44594P55 | 5.1M ohm |
| R348 | 6S44594P55 | 5.1M ohm |
| R349 | 6S44593P65 | 1K ohm |
| R350 | 6S44593P65 | 1K ohm |
| R351 | 6S44594P38 | 1M ohm |
| R352 | 6S44594P38 | 1M ohm |
| R361 | 6S44593P65 | 1K ohm |
| Power P.C. Board | | |
| R456 | 6S44593P41 | Resistor, Carbon Film, 100 ohm 1/4W |

| Symbol No. | Part No. | Description |
|-------------------------------|-------------|------------------------|
| Miscellaneous Parts | | |
| C432 | | — Not Used — |
| E10 | 9T40584T01 | Jack, DIN |
| F401 | 65T42077U17 | Fuse, Semko (1.25A) |
| F402 | 65T42077U17 | Fuse, Semko (1.25A) |
| F403 | 65T42077U16 | Fuse, Semko (1A) |
| F404 | 65T42077U09 | Fuse, Semko (200mA) |
| P401 | 28B40832P01 | Plug, AC Cord (Semko) |
| S417 | 40B41998P02 | Switch, Power |
| S418 | 40T40705T01 | Switch, Voltage Select |
| T401 | 25T42754F01 | Transformer, Power |
| General Assembly Parts | | |
| 2 | 15D41766F05 | Cover, Rear |
| 3 | 43B41625J02 | Stopper, Cord |
| 43 | 84D41790F02 | — Not Used — |
| 56 | 64D41755F02 | Panel, Front |
| 88 | 3S40011G93 | Screw, Machine (M3x8) |
| 89 | 7A40703T01 | Support, Din Jack |
| 90 | 9A40961P01 | Holder, Fuse |
| 91 | 29C41045P03 | Lug, Wrap Around |
| 92 | 2S40000G12 | Nut, Hex (M3x0.5) |
| Packing Assembly Parts | | |
| 104 | 56C42357F21 | Carton, Packing |